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SOUTH PACIFIC COMMISSION

quarterly BULLETIN

VOL. 3. NO. 1 JANUARY, 1953

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PUBLISHED BY THE SOUTH PACIFIC COMMISSION, NOUMEA, NEW CALEDONIA

THE SOUTH PACIFIC COMMISSION

The South Pacific Commission is an advisory and consultative body set up by the six Governments responsible for the administration of Island Territories in the South Pacific region. Its purpose is to recommend to the member Governments means for promoting the well-being of the people of these territories. It is concerned with social, economic and health matters. Its headquarters are at Noumea, New Caledonia.

The Commission was established by an Agreement between the Governments of Australia, France, the Netherlands, New Zealand, the United Kingdom and the United States of America, signed at Canberra on the 6th February, 1947, and finally ratified on the 29th July, 1948. Until the 7th November, 1951, the area of the Commission's activities comprised territories lying generally south of the equator from and including Netherlands New Guinea in the west to the French Establishments in Oceania and Pitcairn in the east. On 7th November, 1951, an additional Agreement was signed at Commission headquarters in Noumea on behalf of the six participating Governments, extending the scope of the Commission to include Guam and the Trust Territory of the Pacific Islands under United States administration.

The Commission consists of twelve Commissioners, two from each Government, and meets twice a year. The first Session was held in May, 1948. There are two auxiliary bodies, the Research Council and the South Pacific Conference.

The Research Council, which assembles once a year, held its first meeting in May, 1949. Members are appointed by the Commission, and are selected for their special knowledge of the questions with which the Commission is concerned, and the problems of the territories in these fields. The chief function of the Research Council is to advise the Commission what investigations are necessary. Arrangements to carry out those that are approved are the responsibility of the Secretary-General and other principal officers.

The South Pacific Conference, which meets at intervals not exceeding three years, consists of delegates from the local inhabitants of the territories, who may be accompanied by advisers. The first Conference was held in Suva in April, 1950, and was attended by delegates from fifteen territories and from the Kingdom of Tonga. The second Conference will be held at Commission headquarters in April, 1953.

The Commission's staff includes six principal officers, as follows: Secretary-General, Sir Brian Freeston, K.C.M.G., O.B.E. (United Kingdom); Deputy Chairman of the Research Council, Dr. E. M. Ojala (New Zealand); Deputy Secretary-General, Mr. John Ryan (Australia); Executive Officer for Health, Dr. E. Massal (France); Executive Officer for Economic Development, Dr. A. H. J. Kroon (Netherlands); Executive Officer for Social Development, Mr. H. E. Maude, O.B.E. (United Kingdom). The Deputy Chairman and the three Executive Officers are ex officio members of the Research Council. The principal officers are supported by a small technical and administrative staff.

Further particulars of the Commission's activities may be obtained from the Secretary-General, Noumea, New Caledonia.

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THE SPC QUARTERLY BULLETIN, first published in January, 1951, was instituted primarily to provide, for general circulation, a quarterly survey of the Commission's activities in its three main fields of operation; economic development, health and social development. Articles are also featured on a wide variety of subjects in these and related fields, usually contributed by specialists working in the territories within the Commission area.

THE BULLETIN is given selective world distribution to people and institutions in widely differing fields sharing a common interest in the purposes and work of the Commission. It is published in two editions, English and French.

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Industrialization in the South Pacific

At its Eighth Session the Commission expanded its work programme to include a study of past experience and future plans for industrial development in the region. Subsequent consideration of this project by the Research Council was assisted by a working paper prepared by Dr. C. S. Belshaw of the Australian National University. The following article by Dr. Belshaw, largely based upon this paper, outlines the major issues involved. A series of articles on individual industries in the region will follow in later issues of the "Quarterly Bulletin."

By CYRIL S. BELSHAW

PRACTICALLY every account of programmes for the advancement of under-developed territories, among which the Pacific Islands must be numbered, emphasises the role of industrialization. In the Orient and the West Indies we hear that over-population in agricultural areas will be relieved through urbanization or through the development of cottage industries. In South-east Asia, South and Central America, and emergent Africa, industrialization is often proposed as a means towards independence from the "economic imperialism" of the major powers. In the major industrial countries themselves it is sometimes suggested that the development of industries in "backward" territories might do something to relieve world shortages of certain manufactured goods—through export from those territories, or by enabling Western manufactures to be diverted elsewhere, or by producing the goods required to assist and stimulate the production of raw materials that Western industry needs.

These points have only limited relevance for the Pacific. Areas of over-population in relation to agricultural resources are as yet small, though there is sometimes scope for the use of under-employed labour. Seldom has it been suggested that colonial powers might be withholding industrial "know-how," though, in a confused form, this is one of the main tenets of the cargo cults of Melanesia. Further, the most optimistic estimates of the possible extent of industrial development which might emerge in Oceania would agree that the contribution to world production would be small.

The recent development of migration in towns in some territories evidences a taste for urban life which, if opportunities for industrial employment are not developed, could be followed by migration overseas. This has, in fact, been taking place in some areas, as, for instance, the migration from Cook Islands to New Zealand and from American Samoa to Hawaii. Similarly, industry is needed in those areas where agricultural resources are limited in relation to population. If economic industries could be devised, they would be one answer to the plight of atolls, and possibly also for some of the hill villages of Melanesia where large garden or plantation areas are not available.

By far the greater proportion of island peoples are, however, living in good agricultural areas where the prime need is for the improvement of farming methods and levels of efficiency under the guidance of adequate and sympathetic extension services. Here cottage or small-scale craft industries may provide the opportunity for fuller employment and extra earnings in those periods when labour is used far below the optimum.

Many articles are imported into Pacific islands which, technically speaking, could be locally produced. A large proportion of these imports are foodstuffs and other agricultural products. Some, such as made-up clothing and furniture, are manufactures. Many imports, because of their nature and high cost, are for Europeans only, as for example, the imports of furniture into New Guinea and the Solomon Islands. For social and economic reasons, however, it is desirable to devise a means whereby the demands of the local peoples could be met cheaply from local production.

Such industrial developments would result in raising the level of living of the island peoples. There would be a direct increase in personal incomes. This would expand the local revenue of the territories, enabling dependence on overseas sources of revenue to be reduced. Further "snow-balling" effects would also be likely. The new industries would need local raw materials, and this need would widen and increase the demand for production from agricultural and extractive industries, and for the facilities provided by middlemen and various servicing industries. Although some of the personal income of those engaged in industry would be spent on imports, some would also be used to buy local foodstuffs and other products, providing a further stimulus to local agriculture. In short, the judicious development of local industries should result in improvement in the level of local economic activity through increased division of labour, fuller employment and a larger volume of internal trade, a greater and more rapid circulation of wealth, and an increased volume of savings available for capital investment.

However, the many advantages of industrialization, conceived in a form suitable for island conditions, would not necessarily be achieved, There are numerous problems and dangers which must be recognized and faced in any programme of industrial development.

Problems of Industrial Development

In the first place, industrialization must not be allowed to compete unduly with agriculture: it is, indeed, fundamentally related to agricultural improvement. On the one hand, industrial development depends upon an increased supply of food and raw materials with the same or less agricultural labour, and upon the diversion of under-employed rural labour to more intense activity. On the other hand, agricultural improvement implies a greater dependence upon industry to provide machinery, fertilizers and incentive goods, some of which may be produced by local industry. An industrial development programme which deprived agriculture of essential labour could raise more serious problems than those which the programme originally aimed to resolve.

A second danger is that new industries might survive only under conditions of uneconomic protection. Past experience suggests, however, that under-protection rather than over-protection has been the rule in the Pacific.

A further danger is the possibility of destruction of resources. Although this is mainly a problem of primary industries, as the tragic history of whaling and sandalwood shows, manufacturing industry may hasten the process by increasing the demand for local raw materials while problems of conservation await effective solution.

Sociological difficulties associated with industrial development also need careful attention. The standard of island education, particularly in technical and commercial matters, is notoriously uneven. Unless the extent and degree of industrialization is closely related to the abilities of the people, frequent failures may result, frustrating later efforts to promote the development of industries.

Successful industrial development is likely to increase urban concentrations of population, or to make a large proportion of local population fully dependent upon wages. Unless industry can bear the costs of labour consistent with reasonable standards of housing, hygiene and social behaviour, we may expect slums, malnutrition, and social malaise. The main alternative to urbanization and migrant labour, so far hardly tried, is that of bringing industry to the traditional rural environment, making use of transport to tap labour supplies. In this regard, it is not usually realised how much island wage scales assume that wage income is supplemented by family agriculture. Some forms of industry may eliminate the opportunity to enjoy this supplementary source of income, without giving adequate compensation.

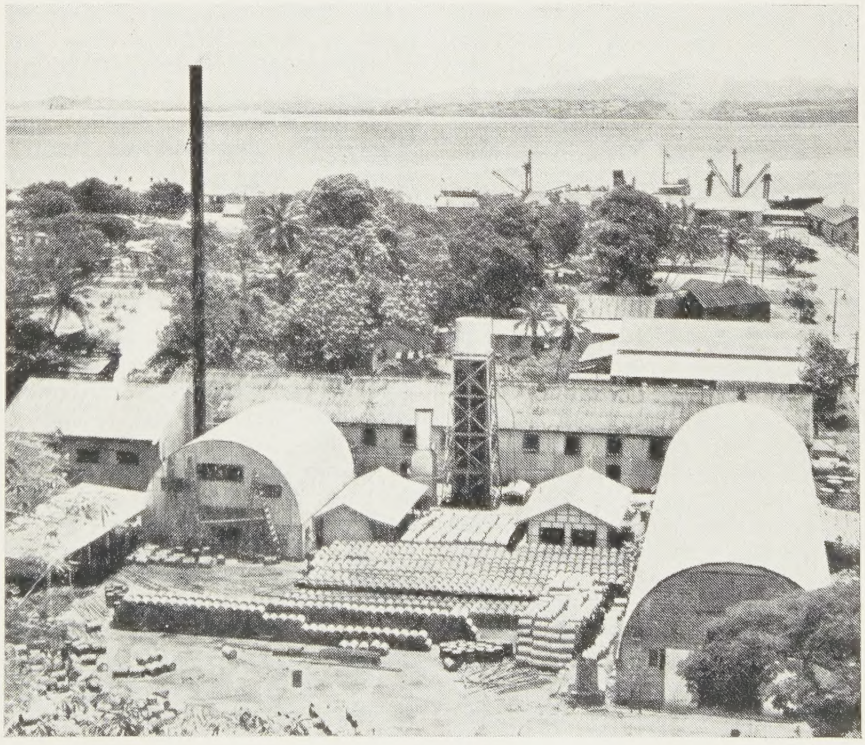
Past experience has shown that industrialization programmes are likely to go astray unless community welfare is a conscious objective. Where this has not been the case, the financial benefit of new industries has often been found concentrated in a small, newly-rich class who spend mainly on imported luxuries and re-invest locally only a limited proportion of funds accumulated. Unless there is education in better living, increased earnings may be misapplied and no genuine advance in the level or standard of living will take place.

Finally, the development of industry in island communities will create new employer-employee relationships which involve the establishment of industrial standards and safeguards, the organization of groups representing management and labour, and the provision of negotiating machinery.

The list of dangers and problems should not be interpreted as arguments against industrialization, but rather as guides to further study in the interests of orderly and beneficial progress.

The type and extent of industrial development appropriate to the Pacific islands must be considered in the light of a number of factors.

Where it is proposed to undertake production for the export market, it is necessary to compare anticipated production costs with those obtaining in competing countries, the nature and cost of capital investment required, transport costs involved, and the effect of fiscal charges upon local industry. Numerous social factors affect production costs. These include the standard of living of the working population, whether production is organised along factory or cottage industry lines, the skill of labour engaged, the strength of commercial incentives, and the



AT THIS OIL MILL in Suva, coconut oil is extracted from copra mainly for export but partly for manufacturing margarine.

extent to which European employment is necessary and the cost involved. With few exceptions, manufacturing production for export is not likely to be highly successful in the Pacific islands, which have to compete with much better adapted industrial economies elsewhere.

The possibilities of production for the local market are now encouraging. The development of such production has the advantage of location within controllable tariff boundaries and close to the market. Most potential customers will, however, have limited purchasing power. This factor must be considered, surveys of household budgets made and patterns of community earning and spending studied, if governments are to place industrial development on a practical and constructive basis. Policy should anticipate the "snow-balling" effects that follow from the close relation between industry and agriculture. The development of industry should stimulate further industrial development.

Industry need not be limited to the use of local raw materials. Dr. Leubuscher has shown that the popular belief that colonial raw materials can be processed most economically in the raw material producing country is not borne out by many examples. It is usually more economical to transport raw material to places where power and skills are readily available, and where there is a large local market. To a certain degree the corollary also applies. Imported raw materials may be processed in tropical dependencies by low-cost labour to give a product more suited to local requirements than the more expensive imported product. This may be applied to the cutting and painting of cloth and the design of furniture.

Handcrafts are often suggested as a significant field for development. It has been customary to think in terms of the production of curios for the tourist or export trade, or the introduction of new crafts such as wool-spinning for local needs. The prospects of further expansion along these lines do not seem great, but the development of traditional handcrafts to meet local demand at a new cultural level may be the most important. Thus, if raw materials can be found on a suitable scale, rope-making and allied industries such as seine-net making may have a future. Similarly, traditional pottery, carpentry and canoe-making skills might be adapted to meet modern demands in brick making, coral cement work, furniture making, house building and boat building.

It must not be overlooked that certain Pacific islands may be able to supply others with needed goods. We tend too readily to think of trade as being canalised between island and Western industry. Cross-wise trade between the islands could also be important as, indeed, it was in the last century.

Certain key supporting services must be considered in relation to industrial development in the Pacific islands. The development of hydro-electric potential as an alternative to imported oil as a source of power may be a practical consideration in many areas. The possibility of providing power to rural homes for domestic industry has so far not been examined. Similarly, transport could often be developed not only to move raw materials and finished products, but also to unite wider areas and market hinterlands. Bus services may have a role in Melanesia. Vocational training services and the organization of suitable credit facilities are most important and are receiving attention in South Pacific Commission research projects.

To sum up, there are distinct possibilities for industrial development in the Pacific islands, even though we must be resigned to the fact that these territories are not likely to become major industrial units. There have been many instances of failure in the past, for reasons which require careful research before they can be definitely stated. There is great need not only for research, but also for balanced imagination in assessing the possibilities for further industrial development. We must get away from the rooted habits of production for export only, and look rather to the territories as organisms, not self contained, but growing into complex structures socially and economically. We need to found the basic institutions of commerce—peasant production, habits of cash earning and spending, stores and market places, transport services and banking facilities—and then industry will find its natural role and level.

Commission's 10th Session Held in October

The Tenth Session of the South Pacific Commission was held at its headquarters in Noumea from 6th to 16th October, 1952. Delegates attended from the member Governments of Australia, France, the Netherlands, New Zealand, United Kingdom and United States of America. The Session was under the chairmanship of the Senior Commissioner for New Zealand, Mr. G. R. Powles.

The main task of the Session was to review progress made in the Commission work programme, comprising forty-three projects in the fields of economic development, health and social development, and to finalise the plans for continuing and expanding it in 1953 that were prepared for Commission consideration by the Research Council at its Fourth Meeting held in June, 1952. The recommendations that were approved by the Commission are embodied in the work programme report appearing elsewhere in this issue.

At the Tenth Session the Commission adopted procedures to foster co-operation in the South Pacific with the specialized agencies of the United Nations, such as the Food and Agriculture Organization, the World Health Organization and the United Nations Educational, Scientific and Cultural Organization, and also of the leading private foundations that are interested in social welfare and research. Increasing co-operation with scientific institutions was also envisaged.

During the Tenth Session the Commission's annual budget for 1952 was approved at a figure of £stg.181,095. Arrangements were reviewed for holding the Second South Pacific Conference at Commission headquarters in April, 1953. Appointments for 1953 were made to the Commission's expert advisory body, the Research Council. (A list of members appears on page 28.)

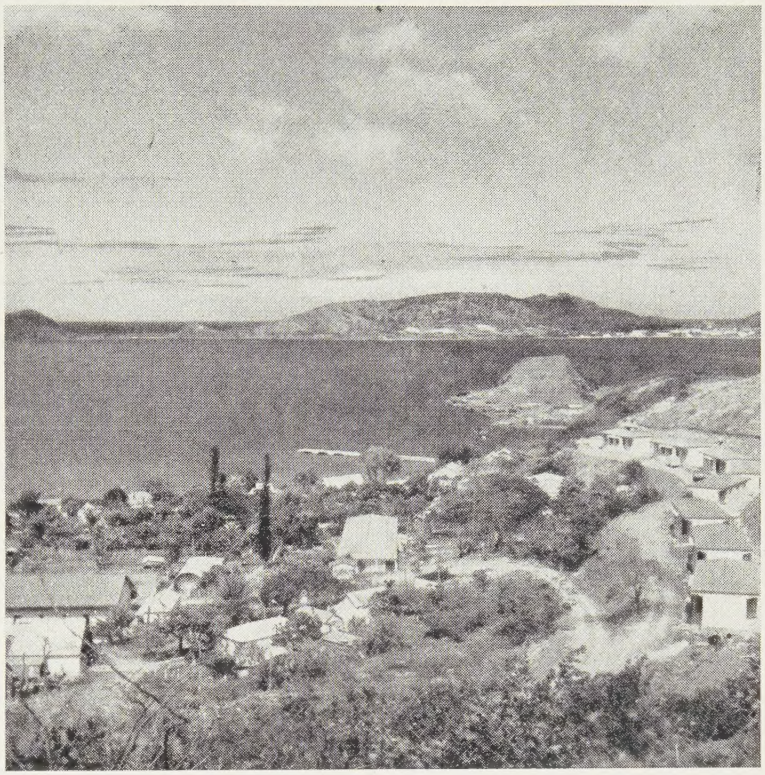
The Eleventh Session of the Commission will open on 25th April, 1953.

Ducos Leprosarium

NEW CALEDONIA

By DR. R. F. FRANCO

Director of the Gaston Bourret Institute of Microbiology, Noumea, New Caledonia



A VIEW OF DUCOS LEPROSARIUM, situated four miles from Noumea.

IN New Caledonia the endemic leprosy rate is still relatively high, as approximately three per cent. of the indigenous population and one per cent. of the European population are infected. Prophylaxis is still based on case-finding and isolation of contagious patients.

The Ducos Leprosarium, which has been in operation since 1918, is the principal isolation and treatment centre. It is situated on a picturesque peninsula only four miles from Noumea, where the Colonial Hospital is located. The specialist doctors of that hospital are thus able to visit the Ducos patients regularly.

The native quarters are in N'Du Cove, the European in N'Bi Cove. The two villages are separated by a ridge ending in N'Da Point, where the buildings which house the healthy staff are located.

There are at present 68 patients in the European quarter of Ducos, accommodated in houses which vary in size. Some have several single rooms; others are smaller, and are occupied by couples. Most have small private gardens tended by the patients, who earn a little money selling the produce to the establishment. While conditions of accommodation are generally satisfactory, new buildings just completed will permit of the elimination of some uncomfortable dwellings used hitherto.

The native quarters at present hold 134 patients, housed either in large dormitories (for children, girls, single men and single women) or in small bungalows (for two households). Nearby are private gardens.

Each village has an infirmary with twenty beds. That in the European village forms a small hospital group, with an operating block, sterilisation room, laboratory, consulting room and dispensary. A physiotherapy unit is temporarily housed nearby. It will shortly be moved to a building specially constructed for it (both equipment and building were acquired with the generous assistance of the New Zealand Lepers Trust Board).

The use of physiotherapy in the treatment of Hansen's Disease is relatively new, and there are few leprosaria in the world which are as comprehensively equipped for this purpose as Ducos, with diathermy, short-wave and "ultra-flux" equipment (this last generating many varieties of electric current). The results obtained have been very satisfactory; and the treatment effectively completes the good results of sulfone therapy.

Patients' Morale High

Morale of the patients is excellent. Various entertainments help to keep them in good humour. Every fortnight the Red Cross Society gives a film show in the hall, which holds 250 people, while regular picnic outings are very popular with the patients. Each household or patient has a radio. In addition, there is a library which the generosity of the public keeps well supplied with books, magazines and newspapers.

The physical condition of many of the patients at Ducos is so satisfactory that they can be remunerated for their contributions towards the maintenance and improvement of the Sanatorium. Other patients assist the staff of the establishment, which is directed by a resident Administrative Medical Officer, assisted by a deputy administrative officer. Four nursing sisters of the Marist Order attend the patients. A former native patient teaches the children.

All costs, both operational and for equipment, are met from the local New Caledonian budget.

(*Continued on page 9*)

Education in the Trust Territory of the Pacific Islands

A review of the educational system in the Trust Territory of the Pacific Islands, established by the United States Administration.

By ROBERT E. GIBSON
Director of Education

THE Charter of the United Nations makes a clear declaration of the responsibilities of the member states to ensure, among other things, the educational advancement of the peoples of non-self-governing territories.

One of the basic objectives of the trusteeship system is to promote such advancement of the inhabitants of the trust territories. In order to implement these objectives, there is in the organization of the High Commissioner of Trust Territory an Education Department, headed by a Director of Education. When the Trust Territory was first organized, this Director had the responsibility of establishing a public school system. This was accomplished as early as 1947—first an elementary school system, next an intermediate level, and finally a Pacific Islands Teacher Training School where teachers to man the elementary schools were trained. All these were functioning by 1949.

Organization of Schools

Today this public school system is organized as follows. Each of the six District Administration Units maintains an elementary school programme predicated upon six years of education. While the old Interim Regulations and the new legal code for education call for compulsory school attendance in the elementary schools, it is quite often not possible to enforce this law because of lack of availability of schools and teachers. To all intents and purposes the elementary schools are universal, providing educational opportunities for all children for six years.

Out of a total population of 56,000 in the Trust Territory, there are 6,200 children enrolled in the public elementary schools and 1,300 in the mission schools, making a total of 7,500 in elementary education, or 13.4 per cent. of the total population. These public elementary schools are taught by 266 Micronesian teachers trained at the Pacific Islands Teacher Training School, recently changed to the Pacific Islands Central School (PICS), or are graduates of the Intermediate Schools with a summer or two of teacher education. These schools are almost entirely locally financed.

There is one Intermediate School in each of the six districts located at the District Administration Headquarters. To this school come selected graduates of elementary schools from all the islands. It is operated on a boarding school basis. Subsistence is furnished. Formerly a scholarship of three dollars per month was awarded each student. This year a work programme, which permits students to work for amounts equivalent to scholarships, has been instituted in lieu of scholarships. Scholarships are furnished where real need exists and when work cannot be found.

These Intermediate Schools are staffed by both American and Micronesian teachers. An American principal administers the school. The public Intermediate Schools have an enrolment of nearly 900 students. They are financed by the administering authority. The mission schools have 450 students. The teaching in these schools is largely conducted in the English language.

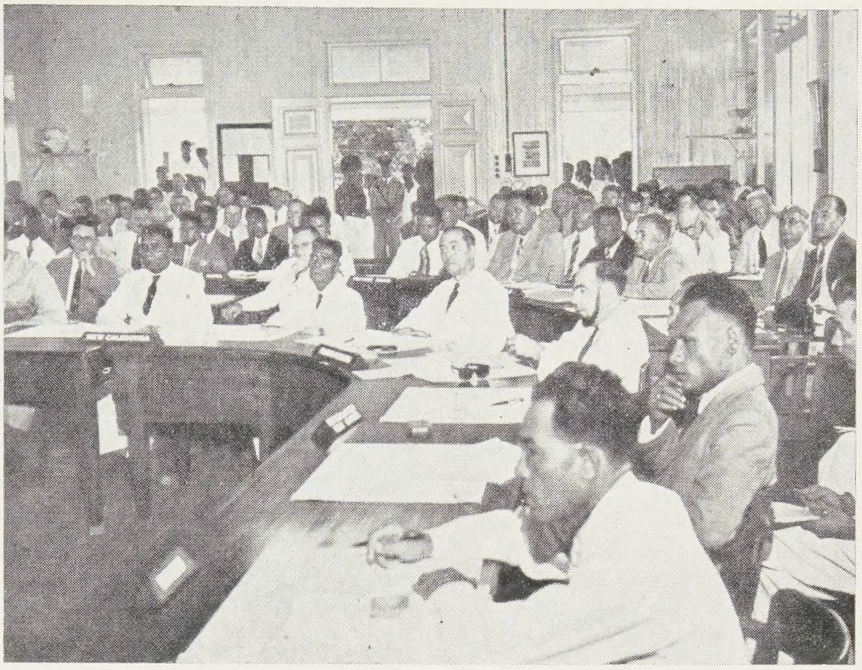
The Pacific Islands Central School (PICS), formerly the Pacific Islands Teacher Training School, is located at the Truk District Headquarters. Here are enrolled this year 135 selected graduates from the six district Intermediate Schools. These students continue for two more years the programme of general education of the Intermediate Schools. With it are integrated as much as possible agriculture and industrial arts. Through a programme of counselling and guidance, graduates are sent back to their local districts for specialized training of an in-service type in such fields as teaching, agriculture, communications, business, administration, and office work. A special school of nursing is being established at PICS.

Teacher Education

Each district is best able to conduct its own teacher education programme since each has an American supervisor whose functions extend both to preservice and in-service teacher education. By giving such specialized training at the district level, district needs and problems are better recognized and become much more the material and content of the teacher education programme.

Directing the educational programme in each district is an American educational administrator. He is a member of the District Administrator's staff and is responsible for the establishment and supervision of all public schools in his district. He also has some supervision of mission schools insofar as they are to conform to certain regulations established by the High Commissioner.

This is the educational system that is today operating in Trust Territory, endeavouring through the co-operation of Americans and Micronesians to effectuate the charge given to the administering authority—"to ensure, with due respect to the culture of the people concerned, their political, economic, social, and educational advancement."



DELEGATES to the First South Pacific Conference listening to the Chairman's opening address. The delegates are (counter-clockwise): Jacob Dagabwinare (Nauru), Nicolas Jouwe and Marku Kasiepo (Netherlands New Guinea), Paul Berniere and Lucien Vayssiere (French Oceania), Maou Djoel and Raphael Buoanaoue (New Caledonia). Behind them are the delegates from New Guinea, Papua, Western Samoa, and Fiji.

The First South Pacific Conference

In April next the Second South Pacific Conference will open at the headquarters of the South Pacific Commission at Noumea, New Caledonia. Over sixty delegates, the large majority being indigenous peoples, will attend from the eighteen territories in the Commission area. This article by an observer who attended the First Conference at Suva in 1950 emphasizes the primary function of this auxiliary body of the Commission, which is to act as a link between the Commission and the island peoples it was created to serve.

AT Suva on 5th May, 1950, the conclusion of the first South Pacific Conference gave the substance of permanency to an important experiment, transforming it into a new institution with implications as wide as the Pacific itself in the relations of its many peoples. In the centuries of Pacific history, this was the first occasion when representatives of the three great, scattered races, Polynesian, Melanesian and Micronesian, met on common ground to discuss matters relating to the welfare of their peoples.

Perhaps the most conspicuous and significant achievement of this first conference was the development among the delegates of a warmth of accord that demolished barriers of race, language, rank and tradition. It grew with the realisation of the unusual opportunity provided by this meeting to express the aspirations of the Pacific peoples, and the problems hampering their progress. There was no accidental discovery of kinship among the delegates. It was shaped during the free expression of their views in the conference hall, and in the mess-room and dormitories where they mingled informally.

The holding of the First South Pacific Conference completed the first cycle in the evolution of the South Pacific Commission, which came into being on the 6th February, 1947, with the signing of an Agreement by the six Governments with territorial responsibilities in the Pacific, Australia, France, the Netherlands, New Zealand, United Kingdom and the United States of America.*

The signatory governments created the South Pacific Commission as a consultative and advisory body in matters affecting the economic and social development of the non-self-governing territories of the South Pacific, and the welfare and advancement of their peoples.

Two Auxiliary Bodies

The Agreement provided the Commission with two auxiliary bodies; the Research Council and the South

* A brief statement of the establishment of the Commission, defining its structure and functions, appears on the inside front cover of this issue.—Editor.

Pacific Conference, the latter being designed to provide a direct link between the Commission and the island peoples it was set up to serve.

Clauses 35 and 36 of the Agreement stipulated that delegates to the Conference "shall be selected in such a manner as to ensure the greatest possible measure of representation of the local inhabitants." This principle was followed in the selection of delegates to the first South Pacific Conference. Of the forty-one who attended, the large majority were indigenous peoples. They included H.R.H. Tungi, Crown Prince and Premier of Tonga, Samoan High Chiefs, teachers, agricultural assistants, native clerks, assistant medical practitioners, Miria Gavera (a carrier on the Kokoda Trail during the defence of Port Moresby in 1942), and the one woman delegate, the Makea Nui Teremoana Ariki, of Rarotonga. They were people of greater or lesser learning and position, the products of universities, colleges and small village schools, but all shared a common resolve to contribute on their people's behalf to the business of the Conference.

Conference Agenda

The agenda for the Conference was carefully prepared to encourage discussion and ideas from which the Commission and representatives of the Pacific could profit. The method adopted to stimulate discussion was the presentation of a series of introductory papers on topics interesting to all territories. These were, in the field of public health—mosquito control (introduced by the Papuan delegation), and the healthy village (American Samoa); in the social development field, the village school (Western Samoa), vocational training (Netherlands New Guinea), and cooperative societies (Fiji); and in the field of economic development, fisheries methods (French Oceania), and improvement and diversification of food and export crops (Australian New Guinea).

At the invitation of the Fiji Government, the first South Pacific Conference was held at the Teachers' Training College in the hills at Nasinu, six miles from Suva. The Conference was opened by Sir Brian Freeston, Governor of Fiji, High Commissioner for the Western Pacific, and Senior Commissioner for the United Kingdom on the South Pacific Commission.† He was also Chairman throughout the proceedings.

"You are the chosen spokesmen of three million people," he said, "from an area of the earth's surface which extends for five thousand miles from east to west and for nearly two thousand miles from north to south. All the major races inhabiting that area are represented among you—Melanesian, Polynesian, Micronesian, European and Indian—and every territory, every political unit within that area, has been invited to send its representatives to take part in this Conference.

"Never before in the history of the world have all the peoples of the South Pacific met together under one roof; never before has an opportunity been afforded for spokesmen from all the islands, spread over many millions of square miles of ocean, to meet each other on common ground, united by a community of interest, and animated by a common purpose.

"The Commission represents the Governments of the South Pacific; this Conference represents the peoples. For the information and the ideas on which it bases its activities and its advice, the Commission relies normally, as is only right and proper, upon governmental sources. But the sole object of the Commission, as defined in its Charter, is to promote the social and economic welfare and advancement of the peoples in the Pacific, and this Conference has been devised as a means whereby those peoples, through their chosen representatives, can make known to the Commission, direct and at first hand, their hopes, their wishes, their needs and aspirations in all matters affecting their social and economic welfare. You are, in fact, a Parliament of the South Pacific peoples."

"During the next ten days," he said, "you will be making history, and throughout the length and breadth of the Pacific, the generations to come will look back on this Conference as an outstanding landmark in their progress."

Report on Commission Activities

The next speaker was Mr. W. D. Forsyth, Secretary-General of the South Pacific Commission‡, who presented a report to the Conference on progress made by the Commission since its inception in the twenty-eight projects defined for it by the Research Council in the fields of health, economic development and social welfare.

"The idea of a South Pacific Conference," he said, "has been in the minds of men of vision for many years. In this wide oceanic region, sprinkled with a multitude of islands, they could see, as well as the wide expanses of sea dividing them, and the differences of language and custom, many similar features of geography and climate, of natural resources and economic life. They could see the need of the peoples to find ways of preserving the best in themselves in the face of a vigorous alien culture. They could see also that peoples and governments trying to do this might, by sharing their experience, profit from one another's successes and mistakes.

"Some looked forward to the day when the peoples of the territories themselves would not only play a greater part in improving their own conditions, but would also be able to meet people from the other islands, labouring to the same end, and by talking with them, discover what each might have to learn from the other. Isolation fosters ignorance and stagnation, but knowledge of other peoples' minds is a source of strength."

Delegates Take Charge

From the first day's proceedings, the Conference passed to the hands of the delegates, who first elected a general committee comprising one delegate from each national group: Raymond Gadabu, of Nauru, for Australian territories; M. Paul Bernière, of French Oceania, for French territories; Nicolaas Jouwe, of Netherlands New Guinea, for Netherlands territories; the Hon. Tualaulelei, of Western Samoa, for New Zealand territories; H.R.H. Tungi, of Tonga, for United Kingdom territories, and the Hon. M. T. Tuiasosopo, of American Samoa, for United States

† Sir Brian Freeston is now Secretary-General of the South Pacific Commission.—Editor.

‡ Mr. Forsyth is now Australian Minister leading the Australian Mission to the United Nations at New York.—Editor.

HEADQUARTERS of the South Pacific Commission, where the Second South Pacific Conference will be held, are located in the Pentagon building at Anse Vata, three miles south of Noumea, New Caledonia.

territories. Thereafter, all agenda items were discussed in plenary session.

The first, on mosquito control, was introduced by Frank Aisi, a Papuan student at the Central Medical School at Suva. He spoke with confidence, uninterrupted, and the feeling of co-operation grew and flourished among the delegates as later speakers related their progress and problems. It also gained immeasurably from the sociability and personal acquaintance which sprang up in the delegates' quarters and over meals and refreshments. The success of the first South Pacific Conference, however, was assured on the day it began.

Conference Resolutions

Forty-two resolutions emerged at Nasinu as recommendations from the Conference to the Commission, which, in the following week, referred twenty-three for attention and advice to member Governments, the Research Council or the Secretary-General. The Commission noted sixteen of the remainder, some for later inquiry, but it considered that four more called for facilities already in existence.

The fruitfulness of the Conference could only partly be measured by the number and nature of the recommendations conveyed to the parent body. It must be judged as well from the fulfilment of the movement towards Pacific kinship and co-operation which had its origin at Nasinu.

This was the message given to the delegates by Sir Brian Freeston in a moving speech at the close of the Conference. "The success of the Conference," he said, "has been far greater than I ever dared to hope. It was expecting almost too much that differences of race, language and tradition could be overcome.

"There has been overwhelming evidence here of a desire for brotherhood throughout the Pacific, a realization of common problems, and a real sense of unity. There is ample evidence of a great hunger from all the territories for the betterment and improvement of the people, and we cannot fail to recognize that.

"We have dropped a large pebble into the Pacific, and no one can say as yet just how far its ripples may go."

Ducos Leprosarium

(*Continued from page 5*)

Continual improvements help to maintain morale, with excellent effect on the patients. New cases who formerly would try to avoid isolation now willingly agree to hospitalisation in Ducos; in fact, many ask to be employed there even when their state of health could allow of their leaving the peninsula.

SECOND SOUTH PACIFIC CONFERENCE

THE second South Pacific Conference will be held at Commission headquarters at Noumea in mid-April. Over 60 delegates from the eighteen territories in the Commission area will attend, coming from as far afield as the Marianas to the north, from Netherlands New Guinea to the west and from as far east as Tahiti. The independent Kingdom of Tonga to the south will also be represented.

The Chairman of the Conference will be M. Lasalle-Séré, Senior Commissioner for France to the South Pacific Commission.

The agenda for the Conference includes the following topics for discussion in three main fields:

Economic Development:

1. Problems of conserving and improving the resources of the land and water, e.g., soil, forests, land tenure, crops, stock, fish.
2. Relation of population to resources.
3. Marketing problems.

Health:

1. Health education of the peoples.
2. Diet and its improvement.

Social Development:

1. Role of women and women's organisations in the community.
2. What should a child have been taught by the time it leaves school?

At the first South Pacific Conference held at Suva in 1950, forty-two resolutions were adopted on problems of South Pacific territories in the fields of public health, social welfare and economic development. At the second Conference, a progress report will be presented on the action taken by member Governments and their administrations, and by the Commission, on these resolutions.

Modern-Type Testing in Island Schools

A study of the effect of modern-type educational testing on children in Pacific Island schools.

By R. S. ADAM
Director of the Educational Research Institute in Fiji

EDUCATIONAL measurement is a developing science. Buttressed by logical and statistical evidence, it has now emerged as a major section of educational theory. Its value in school organization and diagnosis of individual difficulties is widely recognized.

It has the additional value in the Pacific Islands of helping to give coherence to educational systems which are in the transition stage from local village or mission organization to general government control. The establishment of class or age standards is an important step towards formulated curricula and accepted teaching methods.

In undeveloped educational systems, measurement is chiefly a matter for administrators. Teachers are seldom sufficiently trained to make useful measurements, nor should they be encouraged to do so, beyond simple classroom needs. The risk of many proceeding from measurement to teaching for measurement is considerable. It is the duty of administrators to ensure that measurement does not confine or direct educational growth, as it may do if handled carelessly.

From the anthropological and sociological point of view, it is desirable to know what relationship testing bears to the social and cultural arrangements of the people concerned. Unlike some native races in other regions, very few Pacific groups have oral examinations to qualify for entry into adult religious rites, or for graduation from adolescence to manhood.

A Fijian research assistant of the Educational Research Institute, Eliki Seru, M.B.E., explaining a test to a class of children in a Fijian village school.

There are tests of skill in fishing or weaving, after which a boy or girl is recognized as a capable craftsman. There is also a fierce competition of childish games, and later the more mature competition for success in adult occupations. School tests are in a different sphere from these, but they presumably evoke similar responses. When the novelty of the whole school situation is taken into account, it may be safely said that academic tests do no further violence to island traditions.

The form of test most commonly used is oral questioning; the next stage is questions on the blackboard requiring one or two sentences in answer. As the child's power of writing develops, he then passes to the essay-type test.

The form of test considered in this study is the short-answer test, sometimes referred to as a "modern-type" test. This form is in general use in

England and America but has been used very little in island schools. It is suitable for almost any school subject, as well as general ability, interests and attitudes.

The Value of Short-Answer Tests

The main criticism of the short-answer test is that it does not encourage constructive thinking about a subject and tends to favour examinees with a good rote memory. A minor criticism is that it requires considerably more time for setting than essay-type questions.

The first of these criticisms is less important in island schools than elsewhere because few examinees are sufficiently advanced in facts or language to build a long written answer to an examination question. The second criticism becomes more important because the shortage of trained personnel means less time available for testing than in other areas.

The chief advantage of the short-answer test is that it can be marked easily and objectively. Tests of this kind are easily standardized.

Short answer tests cover material more thoroughly than any other kind of test. They permit an effective scatter of questions over all parts of the work being examined.

Short answer tests are primarily tests of the subject under consideration, and only to a small degree tests of reading and writing. In some essay-type tests, the reverse is true. The point is important in native schools where children are less accustomed than overseas children to the expression of ideas in writing. Some language barrier between question and answer is inevitable, but the short-answer tests keep it to a minimum.

The subjects of this experiment were children of the two main races living in the Fiji group—Fijian and Indian. One of these is a native race, the other an island race for about three generations. Both races are more accustomed to regular schooling than most island groups in the Pacific, and allowance should be made for this in interpreting the results, but it is considered that otherwise their performance in the test situation should permit reasonable prediction for other island races.

The numbers tested were 200 children, 100 from Fijian and 100 from Indian schools, and 40 at each grade level. The schools used were scattered through several districts in Fiji.

The age range of the children tested was seven to thirteen years. The material used was Social Studies as defined by the Revised Curriculum of the Fiji Department of Education.

The initial testing was with short-answer tests in the language of instruction, which is Fijian or Hindustani in Classes II, III, and IV, and English in Classes V and VI. The second test used the same children and the same questions administered orally about three weeks after the first test.

It was considered that a comparison of the results of the two tests would indicate the effect of the short-answer form on the results. Allowance was made for the effect of practice and time lapse in considering the second results. Certain observations of reactions to the tests were made while the written test was in progress and after it.

The Original Written Test

The five written tests consisted of papers containing from 30 to 55 short-answer questions. The arrangement and style of the questions was similar throughout.

There were five main varieties of questions, set out in groups within the paper:

(a) sentence completion questions;
(b) true-false questions;
(c) word-matching questions;
(d) one- or two- word answer questions;
(e) map-marking questions.

Written instructions on the papers were brief, but a standardized oral explanation in the vernacular was used to introduce the test. There was no time-limit. Children were allowed to work until it seemed unlikely that they would answer further questions correctly.

Unfortunately the assimilation of the material covered had not been extensive, due to a comparatively recent revision of the curriculum, and results were grouped mainly at the lower end of the scale. There was, however, sufficient scatter to make comparison with the later oral results satisfactory.

Observation of Children's Reactions

None of the children who took the test had previously attempted a short-answer test. Observations were made of the reactions of the various classes to this new form of testing.

The papers obviously aroused keen interest. As soon as they were distributed, the children examined them eagerly; there appeared to be no fear or worry. The general attitude seemed to be that this was some exciting new adventure.

Measurements were made of the time between the completion of the oral vernacular explanation and the time when the first and last child put pencil to paper. In the youngest group, the mean time for the first children was 15 seconds and the last children 8 minutes. In the oldest group it was 3 seconds and 5 minutes. Details were as follows:

	First Child (mean time)	Last Child (mean time)
Class II	15 seconds	8 minutes
Class III ...	7 seconds	4 minutes
Class IV	8 seconds	4 minutes
Class V	7 seconds	3 minutes
Class VI ...	3 seconds	5 minutes

The most significant feature of this result is the longer time taken by Class II to begin than other groups, suggesting that these children were more puzzled by the form of the test than others.

A study of the children at work on the test did not reveal any lengthy pauses in transfers from one type of question to another. Pauses were usually in the middle of sections, suggesting subject rather than form difficulties.

With children in school, personal preference statements may be influenced by a variety of extraneous factors. It may, however, be of some interest that a check made some time after the administration of the test showed 63 per cent of the children preferring to be tested by the older methods of general questions on a blackboard. The figure was lower among the older children (38 per cent) and higher in the youngest group (82 per cent).

Checking With an Oral Test

Considerable care was taken with the oral testing in order that the child would feel completely at ease and so that any strangeness in the test situation would be eliminated. The tester talked to each child casually in the vernacular before beginning the test, and during the test encouraged the child whenever there was any

hesitation. It was felt, therefore, that the results of the oral testing would give an accurate measurement of the knowledge of each child of the facts tested, and that a comparison with the results of the written test would show the degree to which the latter failed to represent the knowledge of the child.

In comparing mean scores in the two tests, allowance should be made for practice, time-lapse and further instruction, all of which would tend to raise the score in the second test. Details of the mean score are as follows:

	First Test (Written)	Second Test (Oral)
Class II	11	18 / 30
Class III ...	14	26 / 50
Class IV ...	22	26 / 50
Class V	15	19 / 50
Class VI ...	20	24 / 50

It will be observed that there was a marked improvement in scores in the second test in Classes II and III, but in the other classes the improvement is small enough to have been caused by practice.

A comparison was also made by the statistical device of correlation, and the coefficients obtained were: Class II: .30, Class III: .64, Class IV: .92, Class V: .84, and Class VI: .75. It will be seen that these, with the exception of Class II, are very high.

These correlation coefficients are extremely significant; they show a degree of similarity between the test scores which is convincing evidence of the effectiveness of the original test.

Conclusion

In relation to the number of island peoples and the area of the Pacific region, this experiment was very limited. It also handled only one type of subject-matter.

Apart, however, from the slightly higher degree of civilization of the races tested than the average, there is no reason to suppose that fundamental differences would be found in their reactions to the experiment from those of other island races. It is difficult to say whether or not the question of subject matter is important.

Accepting these limitations, the writer considers that until further experimental evidence is forthcoming, this study may be taken to indicate that modern-type testing will be effective in island schools. In spite of the very great differences between it and tests now generally used, the new forms do not prevent accurate measurement of factual knowledge among native children.

Tours by Organizer for Island Literature

On 29th November, Mr. D. B. Roberts, Organizer for Island Literature and head of the Commission's South Pacific Literature Bureau, left Sydney for a tour of Netherlands New Guinea. His main objectives were to ascertain the position regarding the supply of literature for peoples of those territories, and to establish the most useful ways of future co-operation between the authorities and the Bureau.

In the course of an earlier tour of New Caledonia, Fiji, Western Samoa and the Cook Islands, Mr. Roberts' advice was sought on a wide variety of matters relating to his mission. These included the production of various books at present in manuscript form; the preparation of other desirable books; the stimulation and production of vernacular literature; the formation and operation of central libraries and circulating libraries; the establishment of book-shops; steps to be taken towards modernizing the written form of the vernacular; the organization of competitions for island authors; supply of book boxes on specific subjects; low cost production of illustrations for books; the relative merits of various kinds of printing machines and material; and information about how various matters concerned with literature are being dealt with in other areas of the Pacific and comparable territories elsewhere.

Commission Literacy Adviser Takes Up Post

Dr. K. Neijs, Ph.D., arrived in Sydney from Holland in November to take up his appointment as adviser on literacy to the South Pacific Literature Bureau, set up early last year by the Commission to promote the distribution of simple literature among island peoples.

Dr. Neijs took his doctorate at Utrecht University on a study of Western acculturation and Eastern mass education. He has served as an officer of the Ministry of Education in Indonesia and as Secretary to the University of Indonesia.

Dr. Neijs' work for the Literature Bureau will be carried out in consultation with the organizer for island literature, Mr. D. B. Roberts. He will be concerned with conducting field experiments in literacy techniques and in finding out how they can best be used with particular communities in the region; with preparing prototype teaching materials such as charts and primers; and with advising territorial Governments on these and related matters.

New Guinea Visit by Plant and Animal Quarantine Officer

Mr. L. J. Dumbleton, Plant and Animal Quarantine Officer to the Commission, left headquarters on 19th October to visit the territories of Papua and New Guinea, and Netherlands New Guinea, in order to make contact with quarantine officers of those territories and to study at first hand their problems of pest and disease control.

The two most serious pests that threaten crops in New Guinea are the giant snail and the rhinoceros beetle. The giant snail, which was introduced by the Japanese during the war as a form of emergency ration for their troops, attacks a wide variety of leaf crops, even young cocoa and teak. It occurs around Kavieng in New Ireland and Rabaul in New Britain, but on the mainland it is fairly well contained in a small area near Madang, enclosed on three sides by two rivers and the sea. In Netherlands New Guinea it occurs at Manokwari. Poison baits offer the best form of control so far discovered.

Mr. Dumbleton stated that in an attempt to control the rhinoceros beetle, which was causing serious damage to coconut plantations in New Britain and New Ireland, the authorities were introducing a parasite from Zanzibar.

While in Port Moresby, Mr. Dumbleton visited the plant and the animal quarantine stations established by the administration of the territory at Loloki and Kila Kila respectively.

Protein Concentrate from Fresh Coconuts

The joint authors of this article are project officers of the South Pacific Commission. Mr. Pieris is conducting a survey of the coconut industry in the Pacific, and Mr. Peters is engaged in nutritive analyses of Pacific Island foods, giving particular attention to the coconut. Mr. F. O. Grogan, of the Commonwealth Bureau of Agricultural Economics, and Dr. E. H. Hipsley, of the Commonwealth Department of Health, were associated with Mr. Peters in first bringing to the attention of the Commission the possibility of extracting oil and protein concentrate from fresh coconuts.

By F. E. PETERS, Biochemist, and W. V. D. PIERIS, Technical Officer (Copra)

THE present method of utilizing coconuts industrially in the South Pacific region lies almost entirely in the mechanical extraction of oil from the dried kernel or copra. An alternative process is outlined below which may make it commercially possible to extract not only oil, but also a concentrated protein of value as a human food.

The Copra-Oil Process

There are important differences in the methods of copra manufacture in different countries, and the following notes are applicable only to the Pacific Islands.

Mature nuts, fallen from the palms naturally, are collected at irregular intervals (as a rule three or four times a year) split open with the husks adhering to the shells, and the kernels cut out with specially designed knives or chisels.

The cut pieces of kernel, often referred to as "green meat" or "green copra," are dried in the sun or on racks over a wood-fire where smoke comes into contact with the pieces of kernel, or in hot-air driers of various design, in which coconut shell-husks are used as fuel, and smoke excluded.

The dried copra, which may contain from 7 to 12 per cent of moisture, is cooled, bagged, and transported to oil-milling centres. A period of indefinite duration often intervenes between the manufacture of copra and its shipment, which may include transshipment at various collecting depots serving groups of islands. During this period of storage, the copra deteriorates owing to the development of free fatty acids and rancidity through infestation by micro-organisms and insects. Such infestation also results in an absolute loss of weight of the copra due to destruction of the cellular tissue, oil and other cell contents. The loss may be as much as 15 per cent by weight.

Extraction of Oil

There are only two oil-milling plants in the South Pacific region—a large mill, with a margarine plant attached, in Suva, which crushes about 55 per cent of the copra produced in the Fijian Islands, and a very small mill in Noumea, New Caledonia, which came into operation this year and crushes about 45 tons of copra monthly. These two mills together crush about 20,000 tons of copra a year, which is roughly 10 per cent of the total annual production of South Seas copra at the present time. Thus 90 per cent of the copra produced goes for processing to countries outside the region, carrying with it not only the oil, but also the valuable proteins contained in the dried kernels.

Expeller Process

On an industrial scale, oil is extracted from copra very largely by means of power-driven expellers. A very small quantity is also extracted by means of fat dissolving solvents, and in hydraulic presses.

In the expeller-process, the copra, freed from impurities, is cut, finely ground between rollers, heated in steam-kettles at a temperature of 160-190° F., and passed through two sets of expellers under increasing pressure in order to press out the oil. Copra contains about 68 per cent of oil, and nearly all of it is extracted by the expellers.

Solvent Extraction Process

In the solvent extraction process, the ground copra is agitated with a fat solvent such as petroleum, ether or ethylene dichloride. The solution of oil in solvent is filtered and the solvent distilled off, leaving the oil.

In hydraulic presses (very few of which are in operation at the present time) the ground and heated copra is placed between steel plates in series, and the oil forced out by hydraulic pressure up to two tons per square inch.

The crude oil from South Seas copra, as it leaves the expellers and after filtration, is dark in colour, malodorous, and contains, besides small particles of copra, other materials unfit for human consumption, such as free fatty acids developed through the action of micro-organisms and insects, and phenolic substances derived from wood smoke during smoke-drying of the kernels.

In order to render such oil edible or fit for margarine manufacture, it has to be purified, bleached and deodorised—operations which add to

COPRA ON SUN-DRYING TRAYS. The contents are turned regularly to ensure even exposure. After five or six days the copra is moved to sheds for storage. At this stage it may be kept for long periods without deterioration.

the cost of the finished product and depress the price paid to copra producers.

The residue left after the removal of the oil is the important by-product known as copra press cake, or coconut cake, which when ground becomes coconut meal. These are protein-rich materials unsuitable for human consumption but of considerable value in the feeding of cattle, sheep, pigs and poultry.

If, by an alteration of processing techniques, a portion of the protein in coconut kernels could be recovered, at low cost, in a form suitable for human consumption, especially by incorporation in an infant-weaning food, one of the dietary problems of the region would be solved. Hence interest attaches to processes which claim to extract the protein from coconuts, as well as the oil.

Oil Extraction from Fresh Coconuts

In 1937 the late V. G. Lava, of Manila, Philippine Islands, patented a process for the extraction of oil from fresh mature coconuts. In brief, the following steps are involved.

The mature nuts are collected, husked and shelled. The meat is ground finely, and washed with cold water. Warm to hot water (25°—80° C. 77°—176° F.) is added to the ground meat and the mixture is agitated. The hot water ruptures the oil-containing cells and melts any oil that may be present in the solid form.

After 5 to 10 minutes agitation the mixture is pressed through cloth. The cell-walls and fibre are retained by the press while the oil, water and most of the protein present in the nut come through in the form of an emulsion. The residue left after pressing may be dried, and additional oil may be removed by the use of an expeller or by solvent extraction.

The emulsion, or suspension of oil in water and water in oil, is treated with a "de-emulsifier" such as alcohol or heat and centrifuged. The centrifuge may be of the cream-separator type or an industrial type. The products obtained after centrifugation are oil, protein, solids and waste water. It is claimed that up to 91 per cent of the oil present may be removed in the emulsion, and a further 5 per cent by expeller or solvent, giving a total recovery of 96 per cent of the oil originally present in the meat.

The products of the process are:—

(i) A water-white oil of high purity, which does not require further purification and may be used unhardened as a "ghee" substitute, or hardened in margarine manufacture.

(ii) A protein solid, which is left in the centrifuge after the removal of the oil. This protein solid is fit for human consumption.

(iii) A residual press-cake, somewhat similar to copra press-cake, but containing less protein, and having a sweeter smell and taste. This cake is a suitable cattle food.

The process is subject to many modifications, e.g. if saline is used instead of water, more of the protein is extracted. Also copra or semi-dried kernel may be used instead of fresh meat.

A pilot plant was established by Lava in Laguna Province in the Philippines before the Pacific war, and most of the early technical data obtained using this plant was published. (*Philippine Journal of Science,* Vol. 74, pp. 247-281 (1941) and Vol. 7, pp. 143-156 (1941)). Recent reports from the Philippines indicate that much work is being carried out on the technology of this and similar processes. Thus, Robledano and de Luzuriaga have recently patented a process in the Philippines which is basically similar to Lava's method, but differs from it in some respects, such as the separation of the oil from the oil-water emulsion. A pilot plant using the Robledano-de Luzuriaga process is reported to have been established at Calamba, Philippines, and further information is awaited with interest.

Practical Considerations

While many claims have been made for the fresh-nut extraction method as opposed to the copra-oil method, their practical and commercial demonstration must necessarily take into account a number of possible contingencies.

A plant of minimum economic capacity, producing 5 tons of oil daily, would require, in a working-year of 300 days, the total production of nuts of about 8,000 acres, yields being low in the South Pacific region.

The location of the factory in relation to such areas of production and the uninterrupted flow of nuts, with or without husk, from plantation to factory would require careful organization. It is not unlikely that the plant would be installed as a subsidiary to

existing copra-oil plants and housed in the same factory buildings, thus minimizing difficulties of special organization.

The shipment of refined oil would be a major problem, involving questions of cleanliness of containers, two-way transport of drums or back-loading of tankers. Drums are scarce at the present time and tankers difficult to attract to unfamiliar regions. Moreover, bulk shipment of oil involves the costly installation of storage tanks and pumping facilities at loading points, but this has been successfully achieved in other countries.

Tariff difficulties might arise, since import duties on refined oil are, as a rule, higher than on crude oil.

Successful introduction to markets of an unfamiliar protein-concentrate, in competition with known protein foods, would be one of the most difficult problems, but this may be of minor importance if primary advertisement is directed to the value of the new food in the improvement of existing standards of infant feeding in the tropics and, more particularly, in the South Pacific region.

Finally, it has yet to be proved that concentrated coconut protein has, in fact, the high nutritive value claimed on its behalf and that it is palatable and acceptable to infants during the weaning period.

Executive Officer for Economic Development Appointed

At its Tenth Session held last October, the Commission appointed as its Executive Officer for Economic Development, Dr. A. H. J. Kroon, a Dutch agricultural scientist with many years experience in agricultural development in Indonesia.

In association with Dr. E. M. Ojala, Deputy Chairman of the Research Council, Dr. Kroon will be responsible for carrying out the Commission's projects for fostering the economic development of Pacific territories. He will work in collaboration with the Executive Officers in charge of the two other main fields of Commission activity, health (Professor Emile Massal) and social development (Mr. H. E. Maude).

Dr. Kroon's wide experience in the development and improvement of subsistence and estate agriculture was gained in Indonesia over a period of twenty-seven years. He joined the Agricultural Extension Service of the Netherlands East Indies Government in 1925, and in 1936 was appointed Senior Officer of the Service. From 1938 to 1941, as Acting Head of the Department of Estate Agriculture, he was mainly concerned with the rubber, tea, cinchona and sugar industries of Java.

Following the war, during which Dr. Kroon served with the Netherlands Navy and was taken prisoner by the Japanese, he was appointed Dean of the College of Agriculture and Forestry in East Indonesia, a post he held from 1947 to 1950. In 1951 he became Acting Head of the Bureau of Land Utilization in Indonesia, and shortly after represented that country at the Ceylon Conference of the Food and Agriculture Organization, held in 1951.

Dr. Kroon arrived at Commission headquarters on December 13th from Holland to take up his appointment.

Leprosy Investigations in Netherlands New Guinea

A six-month investigation of leprosy in Netherlands New Guinea, undertaken at the invitation of the Administration of that Territory, was completed last October by Dr. Norman R. Sloan, whose main task as leprologist to the Commission is to visit territories needing his expert guidance on their leprosy problems.

The incidence of leprosy in some areas of Netherlands New Guinea is high enough to constitute a major health problem, according to Dr. Sloan, who returned to Commission headquarters on 4th November. The authorities are initiating a campaign to bring the disease under control, but because of the difficulties involved, it is inevitable that any control programme must be a long-term one.

The first need is for training an adequate team of medical assistants to work in villages, diagnosing and treating. The next requirement is an adequate supply of drugs for treatment. In Netherlands New Guinea, the drug D.D.S. is being used with encouraging results. (D.D.S., or diamino-di-phenyl-sulfone, is the newest and cheapest of the sulfone group of drugs. It is administered orally, and can conveniently be used by trained medical assistants.)

The problem of what to do with the children of leprous parents is a pressing one, according to Dr. Sloan. While leprosy is not a highly contagious disease, infants and children are the most susceptible of all age groups to infection. Their early separation from leprous parents is the only solution at present, but this means that provision has to be made for their care and upbringing.

Dr. Sloan has had long experience in the diagnosis and treatment of leprosy. He has carried out research in Liberia, the Virgin Islands and at the Kalaupapa Settlement, Molokai, Hawaii, where he was medical director for nine years.

At the request of the administration, Dr. Sloan is now engaged in carrying out a leprosy survey of the Trust Territory of the Pacific Islands.

New Guinea Visit by Secretary-General

During November a brief visit was paid to New Guinea by the Secretary-General of the Commission, Sir Brian Freeston. After two days in Biak, Sir Brian spent a week in Hollandia before proceeding via Madang to Port Moresby. The main purpose of his visit was to establish personal contacts with administrative and technical authorities, and to observe at first hand the progress of those particular schemes (for example, the Nimboran community development project) which the Commission is actively supporting.

Coconut Specialist Visits Trust Territory

Mr. W. V. D. Pieris, the Commission's specialist on the coconut industry, will leave headquarters early in January for Honolulu en route to the Trust Territory of the Pacific Islands, where, at the request of the administration, he proposes to study the history, current problems and future development of the coconut industry in the territory, to visit representative plantations and indigenous plantings, to meet growers and examine areas selected for new plantings.

Malaria Research in the South Pacific

*Some territories of the south-west Pacific are heavily infested by the malaria-carrying anopheles mosquito; in others it is quite unknown. A project sponsored by the New Zealand Government is now being carried out with the objective of discovering why this should be so. The account below is based on a paper recently issued by the South Pacific Commission.**

IN January, 1952, the New Zealand Government informed the South Pacific Commission of a malaria research project to be carried out in the Pacific, in the area south of the New Hebrides and east of 170° longitude E., which is at present free from the malaria-carrying *Anopheles* mosquito.

The proposal, which was originated by the Director of the New Zealand Air Force Medical Services, has the support of the New Zealand Department of Scientific and Industrial Research.

In his recommendations the Director remarked, inter alia: "The only major warm region absolutely free from *Anopheles* is that part of the Pacific south of the New Hebrides and east of 170° longitude E. New Guinea, the Bismarck Archipelago, the Philippines to the north and the Solomons and New Hebrides to the south, are among the world's most malarious areas; but the New Hebridean island of Aneityum is the southern-most Pacific outpost of malaria. The Loyalty Islands, New Caledonia, Norfolk Island and New Zealand lack *Anopheles,* although these mosquitoes abound not only to northward, but also to westward—indeed, in Australia, they occur as far south as Tasmania. East of the New Hebrides, although in similar latitudes, Fiji, Tonga, Samoa and the many other oceanic islands are without *Anopheles.*

"The reasons underlying the absence of *Anopheles* from this huge tract of the Pacific remain unknown. Mere geographical isolation has been proposed as a possible explanation; but the distance between the malarious Solomons and New Hebrides is greater than that between the latter group and New Caledonia, and equivalent to that between the New Hebrides and Fiji. In any case, these seas have been traversed by shipping for over a century and, during the war, many aircraft flew from the non-malarious to the malarious islands and vice versa before effective insect control had been achieved. It is almost inconceivable that *Anopheles* has not from time to time been brought to Fiji either by sea or on board aircraft, yet Fiji remains free of these mosquitoes, although the group offers potential larval habitats outwardly ideally suited for their breeding requirements. It seems more feasible that the problem is a purely zoological one, and that some ecological or physiological barrier—the absence of some essential larval food, or the presence of some predator or parasite not occurring in the malarious area — prevents *Anopheles* from becoming established there.

"This problem is one of the most outstanding ones in modern tropical diseases research, and its solution, no doubt, would point the way to fundamental advances in malariology. Its solution directly affects the economy of the malaria-free Pacific islands, not least that of New Zealand itself. Should an investigation prove that, after all, geographical isolation is the salient factor involved, we would have a concrete basis for evaluating and improving the anti-mosquito measures taken at airports in New Zealand, Fiji and other Pacific islands. On the other hand, should it result in the discovery of some ecological or physiological agency inhibitory to the development of *Anopheles,* the knowledge so gained could be supplied to the malarious Pacific islands.

"It is considered that an appropriately qualified investigator, working from a field base in Fiji, and provided with the necessary means of transportation and apparatus, could obtain results of significance in a research project spread over a period of two years. If finality had not been achieved by the end of that period, there would be sufficient data to hand to indicate whether any extension of the project would be likely to yield a solution to the problem."

Implementation

Flight Lt. M. Laird, M.Sc., Ph.D., was selected to carry out the project. In addition to his entomological work, Flight Lt. Laird has had considerable experience with regard to both free-living and parasitic Protozoa. Mrs. Laird was appointed to the Department of Scientific and Industrial Research as technical assistant to her husband.

A fully equipped laboratory and field headquarters was assembled at Wellington and shipped to Suva. Following the establishment there of his headquarters, Flight Lt. Laird began an ecological study of the larval habits of the mosquito *Culex annulirostris* Skuse. This species, which is abundant in Fiji, utilizes breeding places superficially resembling those of anophelines in the malarious parts of the Pacific. In the New Hebrides and Solomons, *Culex annulirostris* characteristically shares larval habits with *Anopheles farauti* Laveran. During the periods he is spending in Fiji

* Technical Information Circular No. 3: Project H.8—Malaria.

between field trips to territories, Flight Lt. Laird is investigating in detail the pool complexes he has selected for study. Particular attention is being paid to the parasites and food preferences of the larvae, and to the microfauna and microflora of the surface films in which the aquatic stages of anophelines, if present in Fiji, would feed.

Visit to New Hebrides

On 30th July Flight Lt. Laird and his assistant flew to New Hebrides with the object of obtaining data on the anopheline ecology. Larval habits shared by *Culex annulirostris* and *Anopheles farauti* were studied in detail, the results of the survey being subsequently compared with those obtained in the investigation in Fiji. It is hoped that this phase will throw some light on whether or not some factor essential to the survival of anopheline larvae is lacking from the Fijian habitats, or whether or not some toxic to anophelines is at present in these habitats, but absent from the New Hebridean ones, and on the parasitology of *Anopheles farauti*.

While in the New Hebrides, the investigators studied the behaviour and food preferences of male anophelines; it is considered that this aspect of the project may have some bearing on the ultimate solutions. New Hebridean islands which lack anophelines were visited, and the ecology studied of larval habitats which appeared outwardly suited to the requirements of these mosquitoes.

The investigators left the New Hebrides for their Suva headquarters at the end of August where, among other tasks, a report was prepared and identifications made of protozoans, insects, fish, etc.

Visit to New Caledonia

On 15th November the investigators left Suva for Noumea, where they spent several days at the headquarters of the South Pacific Commission. With the full co-operation of the French authorities, they then carried out field investigations, both on the mainland and the Belep Islands to the north. They returned to Suva on 12th December.

Further Investigations Planned

As time and opportunities occur, Flight Lt. Laird and his assistant will make other field trips to as many as possible of the islands on the fringe of the malarious area.

During these visits, microscopic material is studied on the spot under natural conditions, by the means of the phase-contrast microscope. Representative material is also collected and preserved in the field, for preparation and examination at the laboratory at Suva.

Detailed studies of the investigations to date will shortly appear in appropriate scientific journals and will be re-issued as R.N.Z.A.F. Entomological Bulletins.

Collaboration with Commission

In his investigations, Flight Lt. Laird is collaborating closely with the South Pacific Commission, which itself is undertaking malarial investigations under its project H.8.

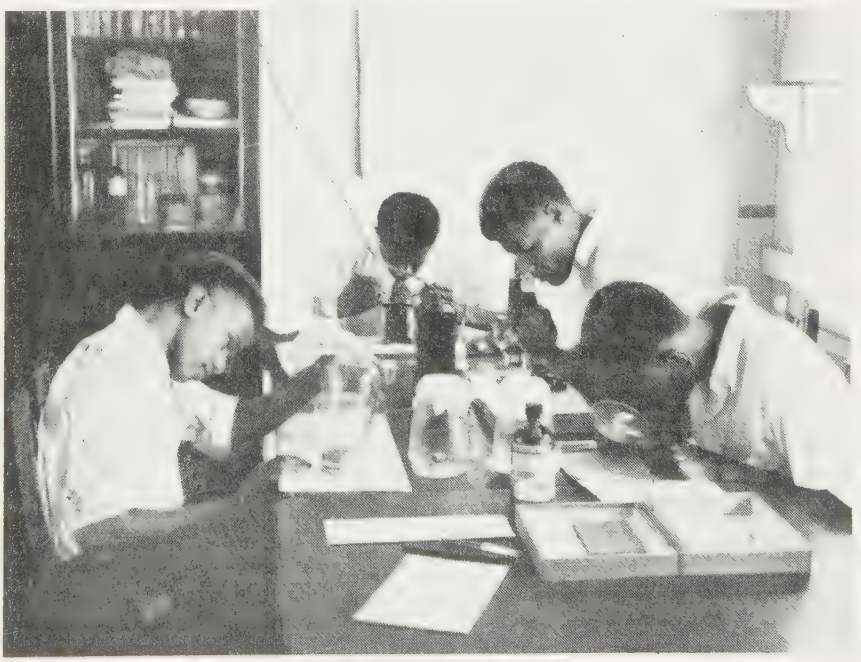
Under this project, Dr. Robert H. Black, of the School of Public Health and Tropical Medicine, Sydney, is carrying out a series of malaria surveys for the Commission in the South Pacific territories. Last year he visited the Trobriands, the Solomons and the New Hebrides.

His reports on these surveys are being published in the Commission's Technical Paper series

Sixth International Grasslands Congress

At the Sixth International Grasslands Congress held at the State College, Pennsylvania, U.S.A., last August, the Commission was represented by the Australian delegation, led by Dr. J. G. Davies, Associate Chief of the Division of Plant Industry, Commonwealth Scientific and Industrial Research Organization. The Congress was attended by 1,200 delegates representing 49 natoins.

A member of the Australian delegation, Mr. S. L. Everist, Botanist of the Department of Agriculture and Stock, Queensland, paid particular attention to discussions on the improvement and management of tropical grasslands. Early in December he visited Commission headquarters to discuss this aspect of the Congress in relation to the Commission's pasture and animal improvement programme for Pacific territories.



THE RESOURCES of this mosquito control laboratory at Suva have been placed at the disposal of Dr. Laird. The photograph shows Fijian laboratory workers checking on larvae and adult mosquito types.

The Cook Islands further education movement was launched at a meeting held at Rarotonga during June, 1951, under the guidance of Mr. P. F. Henderson, former Headmaster of the Avarua School.

*The following year it was approved by the Commission as an "associated" community development scheme, and received a grant-in-aid in return for periodical reports on its progress for the information of the other Pacific territories. The first report, covering the initial eight months work, was published in the Commission Social Development Notes series.**

The present account takes the story to the end of June, 1952, and tells of sustained progress, highlighted by the establishment of the first Community Development Centre at Ngatangiia.

It is hoped that the example of this pioneer village may be followed by other progressive communities (village, district or island) in the Pacific area. Such centres need not cost much, if commenced in a small way. Almost everywhere a suitable building (if not already available) can be erected largely, or even wholly, of local materials; group effort again can lay out the grounds and recreation area and make essential furniture, while the minimum equipment required can be purchased from funds raised by subscription.

If established to cover one or two community needs only, the centre can be expanded later as experience is gained by the committee, and further funds become available: the one essential requirement at all stages is the enthusiastic effort of the community itself towards its own betterment.

The Commission will be glad to assist territorial authorities desiring to encourage the establishment of village welfare centres by advising on activities, organization, buildings and equipment, and passing on information gained from the operation of centres in other parts of the world.

* "Further Education in the Cook Islands." Technical Paper No. 26 (Social Development Notes No. 9). July, 1952. Price 2/- stg.

Further Education in the Cook Islands

An account of recent progress.

By P. F. HENDERSON

Officer for Further Education, Cook Islands

WHEN the first report on the further education movement in the Cook Islands was issued there were in operation three active Further Education Groups in Rarotonga in the villages of Ngatangiia, Titikaveka and Arorangi.

Under separate headings it is proposed to outline the activities of these groups, as well as to show how the scheme has expanded.

The Ngatangiia Group

This, the first group formed, has continued to show great interest in the scheme and early this year elected a junior committee to handle the affairs and requests, etc., of the youths of the district.

Formal meetings have been held every Monday evening in the school building, when educational films were shown, art and craft classes conducted, and general discussion groups formed.

The group became particularly interested in the formation of a community centre and decided to attempt to raise money by organizing dances for this purpose. The cost of building a suitable centre was prohibitive; however, this problem was solved six months ago, when the Resident Commissioner made available to the people a large wooden house, formerly the residence of successive European headmasters of the local school.

Set amidst two acres of grounds and overlooking the entrance to the beautiful Muri Lagoon, this building occupies one of the best sites in Rarotonga.

With materials supplied by the administration, the local people, under the leadership of their own Further Education Committee, gathered together day after day and gradually transformed the building and grounds from a semi-derelict state to the extremely neat and practical layout that exists today. This was a true community effort, with people of all ranks and of all religious denominations working side by side with paint-brushes, hammers and reap hooks.

On Wednesday, 30th July last, before a gathering representative of the whole island, the Resident Commissioner officially opened the building, and the first organized meeting was held there on the evening of 4th August.

The Centre provides the following amenities: library, clubroom, art and craft room, film projection and indoor sports room, medical clinic, workshop and kitchen. The clinic will be run by the Medical Department, and the two acres of land planted by the people, under the guidance of the Agriculture Department.

Activities to be carried out at the Centre will include the following:—

(i) the revival of native arts and crafts such as mat-weaving, basket-making, wood carving, etc.;
(ii) the study and recording of tribal histories and legends;
(iii) the designing of dress materials for printing by the silk-screen method;
(iv) formal education talks and discussion groups;
(v) formal lessons in English, book-keeping, etc.;
(vi) health talks and demonstrations by members of the Medical Department; and
(vii) talks on agricultural subjects;

as well as all the other activities usually associated with such a project.

Already the committee has aided in the preparation of a fisheries report for the South Pacific Commission.

The committee has so far raised by its own efforts the sum of £50 with which is to be purchased a radio and sewing machine. More money is being raised in order to obtain supplies of timber for additional furniture for the building.

An interesting feature at the moment is the general feeling that enough money can be raised to buy a tractor and plough to be controlled by the committee for the use of all residents of the Ngatangiia district.

This group has been most fortunate in having had a suitable building for a community centre placed at its disposal, but it fully realises the advantages it enjoys and has played a very full part in the establishment of the Centre.

At the express wish of the committee controlling the Community Centre, members of other Further Education Groups on the island have been invited to attend and take part in any of the activities carried out there; in this way the other groups will gain knowledge of its uses, and be able to spread that knowledge through their own groups.

Titikaveka

This Group has continued to develop and has concentrated on film discussion groups, art work (designs for dress materials) and the establishment of a library.

Approximately 130 regularly attend the weekly meetings and the committee, at the request of the people of the village, is now arranging for an extra meeting to be held each week.

Arorangi

This Group, unlike the others on the island, is content to accept a mass education technique; indeed numbers are so large that this is almost a necessity.

Films have played the main part of the work with the Group, as well as a small amount of art work. The establishment of a library here proved most popular.

Marairenga (A New Group)

Perhaps the most satisfactory trend noticed during the period covered by this report was the interest aroused in settlements where groups had not at that time been formed. This was especially noticeable in the combined settlements of Tupapa - Marairenga, one of the villages in the administration centre at Avarua.

A year ago a meeting was held in this district and a committee elected by the people of members other than persons of tribal rank. At the time it was believed that, as in other centres, the people did not want their tribal leaders to run this organization. No move was made by this Committee or the people to start the scheme going, and it was thought that the proximity of picture theatres and dance halls was providing too much competition. The Further Education Department, preferring that any move should come from the people, did not attempt to hasten the Committee into any action.

However, in June of this year, a group of the older women, acting on their own initiative, approached the District Ariki, with the request that he endeavour to make arrangements with the Further Education Department for the scheme to begin in the district. The Arikis and Mataiapos agreed to call a meeting and a most enthusiastic gathering elected a new committee headed by the Ariki.

The settlement possesses two excellent meeting houses, one of which has now been set aside solely for the use of the Further Education Group. This in itself is an action worthy of particular note.

The Group, although still comparatively new, is now one of the most active on the island. People of all ages attend and have shown exceptional interest in art and craft classes, so much so that they have expressed the surprising desire to have fewer films and longer art periods. Plans are being adopted now to set up a library for this centre as in those previously formed.

Nikao (A New Group)

Following a pattern similar to that which resulted in the formation of the previous Group, a request was received two weeks ago from the village of Nikao for a group to be set up there.

The initial meeting has been held, and much enthusiasm noted. A large meeting house has been offered for the use of the Further Education Group.

General

It is very apparent that the older established groups have spread the news of their activities to other settlements of the island, and that from this has grown the desire for more groups to be set up.

With the election of committees for 1952 it is noticeable that where persons of tribal rank have shown active interest in the scheme, it has been the wish of the people that such hereditary leaders should be elected to the committees. This has been a change from the original committees to which very few people of rank were appointed.

The co-operation of the Agriculture and Medical Departments in the scheme is now assured, and much help has been given by the heads of each of these departments.

The few remaining settlements in Rarotonga which have not yet established Further Education Groups appear to be gaining interest in the project, and it appears that soon groups will be organized in every district. However, no attempt will be made by this Department to hasten the formation of such groups.

Operations in the outer islands have of necessity as yet been confined to the sending of supplies of books for small reading rooms, but with the delivery of a new electric generator it will be possible in the future to extend the Educational Film Service to these areas.

The visit of Mr. D. B. Roberts from the South Pacific Commission Literature Bureau has aroused great interest in the possibility of book purchases and the extension of library facilities.

The grant of £150 from the South Pacific Commission has been greatly appreciated, and details of its use will be furnished in a later report.

The practical interest shown by the Resident Commissioner and Official Secretary has also been greatly appreciated.

In generally summing up the position, it can be stated without undue optimism that the scheme is very acceptable to the people and in its present state is operating successfully. The policy of allowing it to grow slowly at the speed desired by the people themselves has proved sound, and has provided a firm foundation for its future development.

South Pacific Commission

WORK PROGRAMME

A brief review of developments during the quarter ending 31st December, 1952, in the execution of the Commission's work programme, which at present substantially comprises 43 projects in the fields of economic development (13), health (9), and social development (21), together with related activities.

Economic Development

IN October the Commission appointed as its Executive Officer for Economic Development, Dr. A. H. J. Kroon, a Dutch agricultural scientist with many years experience in agricultural development in Indonesia. He took up duty at Noumea on 13th December.

En route from the Netherlands Dr. Kroon visited the headquarters in Rome of the Food and Agricultural Organization; the Imperial College of Tropical Agriculture and the headquarters of the Caribbean Commission at Trinidad; United States Government authorities at Washington; and governmental authorities, the University of Hawaii and the Pacific Science Association at Honolulu, making technical contacts and receiving information of value to the Commission's activities in the economic development field. Dr. Kroon is planning the further implementation of the economic development programme during 1953, paying particular attention to Projects E.4, E.7, E.8 and others primarily agricultural in nature.

During the quarter, vacancies were advertised for a Research Officer for Economic Development and a Technical Assistant to the Deputy Chairman, Research Council. Applications close on 31st January, 1953.

The Research Officer for Economic Development will assist the Executive Officer with research and administration connected with the Commission's projects in the fields of plant introduction, tropical crops, pastures and livestock, land use, fisheries, forestry and pest and disease control.

The Technical Assistant will assist the Deputy Chairman of the Research Council with research and organization connected with the Commission's work programme, including the carrying out of special research projects of the economic survey type and the collection and interpretation of statistical and other data about the South Pacific region.

EXECUTION OF PROJECTS

E.1—Introduction and Distribution of Economic Plants

Introduction of economic plants to the area and their transfer within the area for study and improvement in special gardens and arboretums.

During the quarter a further payment of £stg.2,000 was made towards the work of the Naduruloulou Plant Introduction and Quarantine Station which is conducted by the Fiji Department of Agriculture and which received financial support from the Commission as a regional centre for the introduction and distribution of economic plants. Grants made in 1952 totalled £stg.3,500 plus the special payment of £stg.450 made towards the cost of repairing damage caused by the hurricane in January, 1952. Commission assistance by grant-in-aid to the Fiji station is to continue in 1953.

Plant Introduction List No. 1, published jointly by the Department of Agriculture, Fiji and the Commission, of plant material introduced to the Station in 1950, and a Plant and Seed List published by the Commission of propagation material now available, have been distributed to member Governments, territorial administrations and interested institutions. Copies are available on request.

The Commission has made provision in 1953 for limited grants-in-aid for other similar stations in the South Pacific.

E.2—Cash Crops.

To assist member Governments and territorial administrations to improve and increase the production of cash crops in the area, with particular emphasis on copra, cacao, coffee, tea and rice.

Copra: In October, Mr. W. V. D. Pieris, copra specialist to the Commission, returned to headquarters after making a tour of Fiji, Western Samoa, American Samoa and the Lower Cook Islands [an article on his tour appears on page 32—Editor]. In December Mr. Pieris studied the coconut industry in the Loyalty Islands.

In continuing his regional survey in 1953, Mr. Pieris proposes to visit the Trust Territory of the Pacific Islands, New Hebrides, Netherlands New Guinea, French Oceania, Papua and New Guinea, and British Solomon Islands.

Cocoa, Coffee, Tea: The reports on the cocoa and coffee industries in territories visited by Mr. D. H. Urquhart during his regional survey for the Commission are being issued in the Technical Paper series. The first three, covering Fiji, Netherlands New Guinea and New Caledonia will be available shortly (Technical Papers Nos. 36, 37 and 38).

In addition, the Commission proposes to publish shortly an overall

review of the present situation and prospects for cocoa and coffee in the Pacific Islands, based upon Mr. Urquhart's reports and other sources of information.

A report by Messrs. D. R. A. Eden and W. L. Edwards, General Manager and Assistant General Manager respectively of the New Zealand Reparation Estates, on "Cocoa Plantation Management in Western Samoa," has been issued as Technical Paper No. 31.

E.3—Tropical Pasture and Animal Improvement

Improvement of the quality of tropical pasture grasses and stock and promotion of better farming methods.

At the Sixth International Grassland Congress held at the State College, Pennsylvania, U.S.A., in August, the Commission was represented by a member of the Australian delegation, Mr. S. L. Everist, botanist, Department of Agriculture and Stock, Queensland. In December Mr. Everist visited Noumea to assist the Commission in the formation of a regional programme of grasslands research. He also paid a brief visit to Fiji to discuss grasslands problems with technical officers there.

A grant-in-aid of £stg.100 was made towards the visit of an officer from Papua and New Guinea to the South Johnstone Station, Queensland, to study pasture development experiments. He will report to the Commission on aspects relevant to pasture development in the South Pacific territories.

During 1953, Commission grants-in-aid are available to assist pasture experiments within the region, the repetition of acclimatization and feeding experiments with dairy cattle in Fiji, experiments to compare indoor and outdoor feeding and management of dairy cattle being undertaken in Fiji, and stock introduction, especially experiments with breeds new to the area.

E.4—Land Use Surveys

Correlation and dissemination of information on land utilization arising from land-use surveys carried out by administrations in the South Pacific.

Soil and land use surveys of South Pacific territories will become increasingly significant in the planning of their agricultural and economic development, and a Soils and Land Use Committee is to be established to assist in the assembly, exchange and analysis of available information and to investigate further the prospects of making a regional approach to the description of soil types.

The Executive Officer for Economic Development will attend the Conference on Regional Surveys related to Land Classification and Regional Assessment, to be held at Canberra from the 11th to 13th February by the Land Research and Regional Survey Section of the Commonwealth Scientific and Industrial Research Organization. The Conference will cover scientific aspects of land description and classification, and regional assessments with particular reference to primary production. The Deputy Chairman of the Research Council hopes to attend some sessions of the Conference.

E.5—Official Grading of Fruits and Vegetables

Establishment of the uniform grading of agricultural products traded in the area, the grades to be both satisfactory to buyers and within the capacity of island producers.

Work under this project as a separate undertaking will be completed with the issue shortly of a report on the grading laws and practices relating to the export of fresh fruits from territories within the region (similar to the report on copra grading laws and practices already distributed). Any further studies of the conditions and problems of copra marketing will be carried out under Project E.2—Cash Crops.

E.6—Economic Development of Coral Atolls

A study of atoll and low island economy with a view to discovering ways of increasing the quantity and variety of subsistence and commercial crops, improving domestic animals and exploiting fisheries and native hand-crafts.

During 1953 an assessment will be made of the available documentation with a view to defining further research needs in connection with improving economic conditions of atoll people. This documentation includes the Catala and Mason Reports on the Gilbert Islands, and the publications being issued by the Pacific Science Board on the work at Arno Atoll in the Marshall Islands, Onotoa in the Southern Gilbert Islands and Raroia Atoll in the Tuamotu Archipelago.

E.7—Fisheries

A survey of the area with particular attention to indigenous fishing methods. Consideration of fish marketing and processing, poisonous fish, pond culture and deep sea fishing techniques.

The report of the Fisheries Conference held at Commission headquarters last May (Technical Paper No. 25) was accepted at the Tenth Session in October as the basis of the Commission's fisheries programme. This provides, in the first instance, for support to the Institut Français d'Océanie and other institutions engaged in fishery and oceanographic research relating to the region. Conference recommendations that have been brought to the attention of member Governments and territorial administrations relate to the functions of territorial fisheries services, the introduction of new gear and fishing methods, instruction in preservation methods, promotion of fishing in programmes of community development, and the continuation of dietetic studies by nutritionists, with special reference to the place of fish in meeting any protein deficiency.

At the Fourth Meeting of the Indo-Pacific Fisheries Council held at Manila in October last, Mr. Lloyd Meehean, United States delegate, acted as observer for the Commission.

E.8—Subsistence of Indigenous Peoples

An assessment of food crop resources and techniques throughout the region and the study and promotion of methods of improving food production and utilization.

In the opinion of the Research Council, these studies are basic to the whole work programme in the field of economic development. This work will be carried out on a long-term basis in close association with project H.2-5, where the services of the

nutritionist and biochemist will be available from time to time to assist with special nutritional investigations and analyses.

In December a grant of $1,000 (£stg.357) was made to the Pacific Science Board towards the completion of the dietary studies of Miss Mary Murai in relation to the Marshall and Caroline Islands. Miss Murai is working in the laboratory of Professor Carey D. Miller at the University of Hawaii. The results of Miss Murai's work will closely relate to Commission projects E.8 and H.2-5.

Interest in solar distillation and other saline and brackish water purification methods continues. With the assistance of a grant-in-aid of £stg.50, further observations and experiments are being made by the Apia Observatory, Western Samoa, with the solar still made by the New Zealand Reparations Estates.

E.9—Control of Pests, Diseases and Weeds

Investigation of the pests, diseases and weeds affecting plants and animals likely to spread into or within the area, occurrence, distribution, present methods of control within and exclusion from territories; development of quarantine policy in the area.

In October-November, Mr. L. J. Dumbleton, the Commission's Plant and Animal Quarantine Officer, visited Papua and New Guinea and Netherlands New Guinea to make contact with quarantine and other technical officers of those territories, and in addition to study at first-hand their problems of pest and disease control [an article on Mr. Dumbleton's visit appears on page 12—Editor].

In February Mr. Dumbleton will attend the annual meeting at Honolulu of the Invertebrate Consultants Committee for the Pacific of the Pacific Science Board, U.S. National Research Council. The Committee has been particularly concerned with the problems of the rhinoceros beetle and giant snail in the Trust Territory of the Pacific Islands: pests to which Mr. Dumbleton has been paying particular attention in relation to the whole Commission area. The meeting will consider the future work of the Committee on these problems. In addition, Mr. Dumbleton will have the opportunity of discussing with other workers other matters associated with project E.9 such as rat control, weeds and plant diseases.

Technical Paper No. 34—"Rhinoceros Beetle Control in the Kingdom of Tonga"—has been prepared by Mr. Dumbleton following his visit to Tonga in July-August last. It will be issued in the near future.

E.10—Commercial Relations

Investigation of credit facilities available for the development of agricultural, industrial and commercial enterprises especially by indigenous peoples.

In the course of these investigations, Mr. V. D. Stace, Assistant Economist of the Reserve Bank of New Zealand, and Mr. P. Carne of the Commonwealth Bank of Australia, visited Western Samoa, American Samoa, Fiji, Papua and New Guinea, Netherlands New Guinea and New Caledonia. These officers are now completing their reports.

E.13—Status of Current Research

Maintenance of records of research work and investigations relating to economic development which are being carried out in the area or are of importance to the area.

The revised edition of the list of current research work in the region in the field of economic development has been published for general distribution as Technical Paper No. 29.

This work is to be extended under the direction of the Deputy Chairman of the Research Council so that the collection and exchange of technical information involved in the efficient conduct of the work programme and functions of the Commission will be further established and coordinated over all fields of Commission activity (health, economic development and social development). The collection and collation of regional statistical information will also receive further attention.

E.14—Industrial Development

A survey of current and projected industrial development in the region.

The Commission has authorised the engagement of a suitable officer on a consultant fee basis to initiate a survey of current and projected industrial development in the region. The possibility of earliest participation by the indigenous peoples is to be a primary factor in determining the types of industrial development to be studied in the first instance.

E.15—Economic Surveys

Assisting territorial administrations to plan, undertake or improve economic surveys and investigations.

The Reserve Bank of New Zealand is making available to the Commission its Assistant Economist (Mr. V. D. Stace) to carry out the first stage of an economic survey of Western Samoa which should eventually indicate the extent to which the resources of the territory are adequate, or are adequately utilized, to provide for the maintenance and improvement of present living standards for the rapidly-expanding population. The initial stage will cover an economic stock-taking of the present situation, based on information already available, and proposals for obtaining such additional information as may be required for a more detailed assessment of resources and possible uses and national income estimates.

Forestry Conference in Singapore

The Second Session of the Asian-Pacific Forestry Commission was held at Singapore in December. Mr. C. L. Leefers, Chief Forester, Netherlands New Guinea, who was the delegate from that territory, also acted as observer for the Commission. He collaborated with the Australian representative (Mr. J. B. McAdam, Director of Forests, Papua and New Guinea) in obtaining fullest information for the Commission on matters of special interest to foresters in its area, particularly the Melanesian region.

Health

PROFESSOR E. MASSAL resumed duty on 1st December, following six months' leave overseas. While abroad Professor Massal visited institutions with which the Health Section maintains close contact. These include

the World Health Organisatioa in Geneva, the Food and Agriculture Organisation in Rome, and certain universities and research laboratories in the United States and Hawaii.

En route to Noumea, Professor Massal visited Guam at the request of the Administration, to discuss health problems which have arisen in that territory.

During Professor Massal's absence, Dr. Guy Loison, Research Officer, was appointed Acting Executive Officer for Health.

EXECUTION OF PROJECTS

H.1 (a)—Epidemiological Information Service

This project, formulated at the South Seas Conference held in Canberra in 1947 and later approved by the Commission, provides for the collection and dissemination of epidemiological intelligence throughout the South Pacific.

The Epidemiological Information Service has been conducted by the South Pacific Health Service since 1949, with the assistance of annual grants-in-aid from the Commission. At the Tenth Session the Commission authorised a further grant-in-aid for 1953, representing an increase of £stg.100 over the amount voted for 1952. The increase is intended to cover the additional expenditure involved in the extension of the service to Guam and the U.S. Trust Territory of the Pacific Islands (both territories were included in the Commission area in November, 1951, at the request of the United States Government).

H.1 (b)—Standard Quarantine Regulations

Standardization of quarantine regulations relating to non-pestilential diseases.

During the Fourth Meeting of the Research Council, held last June, members of the Council's health committee attended a meeting of the *ad hoc* committee on standard quarantine regulations, to discuss the drafting of a common code on quarantine for non-pestilential diseases. At the direction of the committee, the Health Section prepared a draft code which has been circulated to members for comment.

The Committee, which now comprises the following members, will meet again next June to finalise the text of the code:—

Dr. J. M. Cruikshank, Inspector-General of the South Pacific Health Service, Suva (Chairman).

Dr. J. T. Gunther, Director of Public Health in the Territory of Papua and New Guinea, Port Moresby.

Colonel Paul Filippi, Director of Health, New Caledonia, Nouméa.

Dr. D. Metselaar, Head of the Governmental Malariological Services, Netherlands New Guinea.

Dr. T. C. Lonie, Director of Health, Government of Western Samoa.

Dr. J. R. Dean, Medical Director, American Samoa.

Professeur Agrégé E. Massal, Executive Officer for Health, South Pacific Commission (Member *ex-officio*).

A copy of the code finalised at this meeting will be transmitted to the World Health Organization for Information in connection with its proposed meeting on International Sanitary Regulations, to be held in Geneva late this year.

H.2 and 5—Alimentation and Nutrition

Study of infant foods, especially the preparation from local resources of a suitable food for infants during the weaning period. Determination of the nutritive value of island foods and establishment of a nutrition map of the area.

The Commission has approved the continuation of this project and its expansion to include a study of the biological usefulness as a food of protein from coconut. Next June the Research Council will define the general direction of the programme of investigations for the next three years. Account will be taken of the investigations proposed in economic development project E.8—Subsistence of Indigenous Peoples—which are considered basic to the solution of many health as well as social problems.

Miss Sheila Malcolm, Commission nutritionist, commenced field investigations in American Samoa in October, returning to headquarters in December. Her appointment has been extended for three years. It is proposed that she proceed early in 1953 to French Oceania, and later to the U.S. Trust Territory of the Pacific Islands.

Miss Malcolm has carried out investigations in a number of territories in the Commission area, and the following reports have been issued in the Technical Paper series:—

No. 18. *Report on Nutrition Investigations by the South Pacific Commission in* 1950. By Dr. E. Massal. November, 1951. 77 pp., tables, graphs.

No. 23. *Nutrition Research Conducted in New Hebrides During* 1951. By Sheila Malcolm, nutritionist, South Pacific Commission. April, 1952. 51 pp., tables, graphs.

The Commission's biochemist, Mr. Frank Peters, has also accepted appointment for a further term of three years. Mr. Peters, who has been carrying out research at the laboratory of the Australian Institute of Anatomy in Canberra, will shortly be transferred to Noumea, where the French Institute of Oceania has kindly offered to provide him with laboratory space and assistance. During the year Mr. Peters will concentrate on making quantitative analyses of the amino-acid content of foodstuffs. He will shortly visit the United States to investigate the latest techniques in biochemical analysis.

A report by Mr. F. Peters, *The Chemical Composition of the Milk of New Hebridean Mothers*, is available as South Pacific Commission Technical Paper No. 22.

H.4—Filariasis and Elephantiasis

Association of various institutes and experts engaged on filariasis and elephantiasis research.

Dr. J. M. Kerrest, who was in charge of this project, left the Commission's service on 7th November, at the expiration of his appointed term. As Filariasis Officer, Dr. Kerrest's task was to carry out the recommendations of the Filariasis Conference held under Commission auspices in Tahiti in August, 1951. A re-

placement for Dr. Kerrest is being sought. The Netherlands New Guinea authorities have requested the services of the officer appointed, in an advisory capacity.

At the Tenth Session the Commission authorized a further grant-in-aid to the Institute for Medical Research in French Oceania to further research on filariasis, to give effect to certain of the recommendations of the Filariasis Conference.

The Summary of Proceedings of the Filariasis Conference is now available as South Pacific Commission Technical Paper No. 17, and a full technical report on the Conference will be published shortly.

In addition to the grant made to the Institute of Medical Research in French Oceania, grants have also been made to the South Pacific Health Service, and the School of Public Health and Tropical Medicine in Sydney.

H.6—Ophthalmology

Classification of eye diseases in the area. Advice to territorial health services of diagnosis, treatment and control.

The Commission approved the Research Council recommendation that an ophthalmologist be engaged to visit territories requiring his services. A specialist is being sought for the post.

H.7—Leprosy

Study of local conditions effecting leprosy. Advice to territorial health services on a uniform system of diagnosis and control.

The Commission's leprologist, Dr. Sloan, returned to Noumea on 4th November from a six months' visit to Netherlands New Guinea, where, at the request of the Administration, he conducted a general survey of leprosy conditions in the territory, and advised on such questions as case finding, treatment, control and education. He also indicated problems on which he considered further research was necessary.

Dr. Sloan's investigations were carried out in close collaboration with Dr. Dirk Leiker of the Netherlands New Guinea Health Service. At the Tenth Session the Commission authorized Dr. Sloan's re-engagement for another year to enable him to carry out surveys in territories which have requested his services. He is at present engaged in leprosy investigations in the U.S. Trust Territory of the Pacific Islands.

H.8—Malaria

Research on control of malaria. Advice to territorial administrations on preventative measures.

Dr. Black, of the Australian Institute of Public Health and Tropical Medicine, and his laboratory assistant, Mr. Grey, undertook a survey of malaria conditions in the New Hebrides in October and November, 1952, at the invitation of the Condominium authorities. The object of their visit was to make observations upon the haunts and habits of the local malaria vector *Anopheles farauti,* and subsequently to submit recommendations to the administration for the control of malaria in the Group. During the course of the survey Dr. Black and Mr. Grey visited the islands of Efate, Malekula and Espiritu Santo, and some adjacent islets.

Dr. Black has also carried out investigations in the Trobriand Archipelago, and the British Solomon Islands Protectorate, the latter report being available as South Pacific Commission Technical Paper No. 33. The completion of further studies in the Trobriand Islands, which Dr. Black proposes to visit early in 1953, will bring his programme to a conclusion, and reports on his surveys will be published in the Technical Paper Series during 1953.

In June, 1952, the New Zealand Government notified the Commission of a malaria project which would be carried out in the South-West Pacific by Flt. Lt. M. Laird of the Royal New Zealand Air Force Medical Services [an article on this project appears elsewhere in this issue—Editor].

New Projects Under Consideration

As directed by the Commission at its Tenth Session, information is being collected on problems of mental health existing in the region, such as statistics, facilities for treatment, and hospitalization, regulations in force, etc., and to disseminate it to administrations and specialists in the territories. The Research Council will review this information at its meeting next June, and recommend any further action it considers desirable.

The Research Council will also consider whether an investigation of the relationship between nutrition and dental defects could usefully be undertaken in conjunction with project H.2-5.

Social Development

WORK carried out in the social development field in respect of projects and other activities is most conveniently treated under four main heads — Education, Social Welfare, Research Services and South Pacific Literature Bureau — rather than by projects, arranged numerically. However, in order that progress in respect of specific projects might conveniently be noted, an index of them arranged in numerical order will be found at the end of this report.

A. Education

(1) Community Development

Community Development (depopulated area) Project (*S.*16): The preliminary report and project plan for community development work on Tabar has been received from the Senior Commissioner for Australia. Since the report was prepared, Mr. G. J. Platten, the leader of the project, has established himself and his family on Tatau, one of the three islands of the Tabar Group, and commenced the work of co-ordinating agricultural, medical, social and economic activities in the Group.

The Nimboran Community Development Project (*S.*17): A first-hand account of bringing the tractor into the Nimboran area in September for use in the project was given in the last Bulletin. Since then the tractor has been operated successfully by native personnel under the guidance of Mr. Kouwenhoven, the District Officer in charge of the project, and the resulting progress on the project farm is most satisfactory.

In the meantime a preliminary re-

port on this project is being issued as a Commission Technical Paper.

Association with Territorial Community Development Projects (*S*.23): A second report on the Further Education Movement on Rarotonga is published elsewhere in this issue. It covers activities during the five months since the issue of first report (Technical Paper No. 26), and shows that the promise of real and continued participation in the movement by the people themselves is being fulfilled.

Commission association with other territorial community development schemes, now being planned, will be reported next quarter.

(2) Mass Literacy

Adviser on Literacy: Dr. K. Neijs, the Commission Adviser on Literacy, spent the first month after taking up his appointment in studying, at the London University Institute of Education and elsewhere, the most recent developments in literacy teaching techniques. In November Dr. Neijs arrived in Sydney, where he is working under the guidance of Mr. D. B. Roberts, the Organizer for Island Literature, in preparation for experimental field work during 1953. In January he will proceed to Suva to work on a detailed analysis of literacy teaching charts, primers, etc., under Mr. Howard Hayden, Director of Education, Fiji.

Mr. D. B. Roberts' paper, *Types of Organization in Adult and Mass Literacy Work*, was issued during the quarter as Technical Paper No. 32. Based on long practical experience of such work in other areas, it should prove of special significance for the undertaking of literacy work in Melanesian territories.

(3) Visual Education

Film and Filmstrip Appraisal Service: In addition to its usual activities of viewing and appraising films and filmstrips and distributing parcels of films to island Government departments, this service is being extended to include the preparation of experimental filmstrips. The first request of this kind has come from the Executive Officer for Health. The material submitted has now been edited and is ready for processing. A further series on the co-operative movement in various parts of the Pacific is being worked out.

Extension of Film Purchases: Following the authorization given at the Tenth Session to purchase films on subjects other than the Pacific, films have been ordered for the library on such topics as health and hygiene, community development, literacy, village improvement and the use of natural resources—i.e., the coconut. Pacific films previously ordered which have now arrived include the Kapingamarangi film, "The Virgin of Ta'u," "Where Cannibals Roamed" (colour film on the Trobriands) and "Moana of the South Seas." Reviews of all these films have been prepared.

General: Requests are still being received for lists of films and filmstrips on specific subjects; for the latest information on non-electric projectors and on all aspects of visual aids generally.

(4) Vocational Training

Central Vocational Training Institution (*S*.20): Dr. F. J. Harlow returned to Suva early in December to prepare the final sections of his report to the Commission on the establishment there of a prototype Central Institution. His completion of the report has been waiting on the preparation of architect's plans and estimates which, through the courtesy of the Government of Fiji, has been carried out during his absence by the Government Architect, Mr. C. N. Nettleton.

(5) Women's Education

Survey Planned: At the Tenth Session the Commission decided to engage a Pacific area specialist in women's education who will carry out a documentary survey of existing information on the subject, and to review the question of a full-scale field study after the subject has been discussed at the Second South Pacific Conference, to be held next April.

(6) Educational Evaluation

A Research Council recommendation for Commission subsidization of the Fiji Educational Research Institute to carry out school attainment testing work for other interested territories was postponed at the Tenth Session, in view of the projected absence on leave during 1953 of the Director of the Institute. Provision was made, however, for enquiries on the subject to be continued during 1953.

B. Social Welfare

(7) Welfare Centres

Prototype Centres Planned: The Commission has agreed to sponsor two prototype community welfare centres, one on Koror, in the Trust Territory of the Pacific Islands, and one in Hanuabada, near Port Moresby, Papua.

The people of both Koror and Hanuabada form native urban communities amongst whom traditional ways of life have been subjected to much change during the past two decades. The special social and economic problems to which urbanization has given rise in the two places, however, are significantly different, and the Commission-sponsored welfare centre in each is expected to evolve forms of community activities and leisure-time pursuits suited to the particular local conditions. Detailed documentation on the centres will be circulated by the Commission for the benefit of other administrations possibly faced with similar problems amongst their urban native communities.

(8) Anthropology

Population Studies (*S*.18): The field-work of this project is scheduled to be commenced by Dr. S. Kooijman, in collaboration with Dr. H. J. T. Bijlmer and his field assistants, during December, 1952, as reported last quarter.

A paper on *The Colonization of the Phoenix Islands*, by the Executive Officer, appeared in the Journal of the Polynesian Society (Vol. 61, Nos. 1 and 2).

(9) Conservation

Catalogue Completed: Under project S.10, the conservation of archaeological and historical sites and archives, the catalogue of archaeological sites for the mainland of Papua and New Guinea has been completed and is being forwarded to the

territorial administration for comment and amendment.

Requests continue for Dr. F. M. Keesing's report on project S.10, both from the Pacific territories and elsewhere. Notices concerning the report have appeared in *Walkabout* and *Mankind*.

Mr. C. A. Burmester, Chief Legislative Reference Officer of the Commonwealth National Library, visited Fiji for a short period in October, to survey and report on the Fiji Government archives, the visit being furthered by the Social Development section. Miss Dorothy Crozier, of the Australian National University, is also working in Fiji on the Western Pacific High Commission archives; copies of her interim reports have been forwarded by the Chief Secretary.

(10) Co-operation

Commission Advice Sought: Requests are continuing for the assistance of the section in co-operative activities in the territories. The British and French Resident Commissioners in the New Hebrides have asked for a visit from the Executive Officer to advise on the co-operative movement there, and this has been arranged for early in 1953. It is also hoped that the Executive Officer will accompany Mr. B. J. Surridge, Adviser on Co-operation to the Colonial Office, on part of his investigation of co-operative activities in the Pacific commencing in April, 1953.

Distribution to territorial governments and others of Commission technical publications on co-operation, as well as of the general co-operative literature collected by the section, has continued during the quarter.

Investigations are also being made on the feasibility of preparing or adapting simple booklets on co-operation for the use of the officers and members of village societies throughout the islands.

The Commission has decided to convene a Technical Meeting on Co-operatives early in 1954. Recommendations for the agenda of the meeting were made by Commissioners at the Tenth Session.

(11) Housing

Building Survey (S.8): The results of Professor J. P. Thijsse's investigations on native housing in the area will shortly be published, in conformity with the Commission decision at the Tenth Session.

The paper, *Coral as a Building Material,* compiled by Nancy Phelan has been circulated as Technical Paper No. 28, and has proved a timely publication, as experiments in building with coral are now being conducted in several Pacific territories.

The Cottage Housing Scheme experiment of the Government of Fiji, reported in *News from Fiji* for July 30th, 1952, aroused general interest and gave rise to enquiries through the Commission from other Governments in the area. The Government of Fiji has, in response, kindly made available the Government Architect's Report on the Scheme, for restricted circulation to other member Governments. The actual plans of the buildings can also be provided to member Governments at a nominal fee.

(12) Linguistics

Co-operation with Mitchell Library: As a result of discussions held with the Mitchell Library authorities, closer co-operation may result between the Commission and that institution in the vernacular bibliographies project. In particular, it is anticipated that the Gilbertese and New Hebrides bibliographies will appear early in 1953. Advice has been received from the Rev. H. Bond James, the compiler, that the Cook Islands Maori bibliography is almost completed.

C. Research Services

(13) Co-ordination of Research Activities

Requests for Information: Steadily increasing use is being made of the section as a co-ordinating centre, or clearing house. Over one hundred requests for information and advice, some involving considerable research to fulfil, were received during the quarter.

(14) Circulation of Technical Publications

Eighteen technical publications were obtained during the quarter in sufficient numbers, either in original or photostat, for occasional distribution within the region on request. Besides serial publications such as the *Community Development Bulletin, Pacific Islands Education,* and *Fundamental and Adult Education,* which regularly form part of this service, examples of items made available are:—

No. 81. *Some Papers on the Role of Museums in Education.* Paris, Unesco, July, 1952. (Occasional Papers in Education, No. 13.)

No. 84. *Research Opportunities in New Guinea,* by Felix M. Keesing. Offprint from *Southwestern Journal of Anthropology.* Vol. 8, No. 2, Summer, 1952.

No. 88. *Design and Manufacture of Wooden and Rattan Furniture in the Philippines.* New York, United Nations, 1952.

No. 89. *Preliminary BRAB Bibliography of Housing and Building in Hot-Humid and Hot-Dry Climates.* Washington. Building Research Advisory Board, October, 1952.

No. 92. *It Can Be Done—Community Schools in the Philippines.* Manila, Department of Education, 1952.

No. 97. *The Islands English Course—Reader I.* London, Longmans Green and Co., 1952.

(15) Circulation of Technical Information

The Social Development Notes series, which dates back to 1950, has now been incorporated in the wider Commission Technical Paper series, though it still retains its identity by subsidiary numbering.

Technical Paper No. 32: *Types of Organization in Adult and Mass Literacy Work,* by D. B. Roberts; which is No. 12 of the Social Development Notes, was circulated in November. Of the separate Social Development Circular series, one

number was issued during the quarter, viz.:—

Social Development Circular No. 13: *Co-operation in the Torres Strait Islands,* by C. O'Leary.

(16) Requests for Information or Advice

Requests Increase: Requests received for information and advice increased markedly during the quarter. They included many requests made to the Literature Bureau as a result of the Organizer's recent tours of the area.

A few specimen requests are set out below:—

(i) From the Government of Netherlands New Guinea, for information on five aspects of social welfare work in other Pacific territories.

(ii) From the Methodist Overseas Mission, for information relating to the organization of co-operatives among native peoples.

(iii) From Unesco, for details of specialists in the fields of adult and fundamental education in the Pacific area.

(17) Publication of Research Work

Gilbertese-English Dictionary: The usual work of the section in facilitating the publication of research studies on topics connected with the Commission's work was continued.

An examination of the photo-offset process of reproducing these and similar works has been made in response to enquiries, notably from the Western Pacific High Commission in connection with Dr. H. Bingham's Gilbertese-English Dictionary.

A grant-in-aid has been made to the Societe des Océannistes, Paris, to assist the publication of a Tahitian-French dictionary compiled by Father Rene David Lovy.

(18) Preservation of Manuscripts

Service Extended: This service, previously limited to linguistic manuscripts, was extended at the Tenth Session to include works of historical and scientific importance. As a result, the copying for research use of several works is under way, including a Ph.D. thesis on native education in Fiji, Tonga and Western Samoa.

Negotiations are proceeding to obtain various MSS brought to the notice of the section by Commissioners and others.

A deposit notice for a linguistic manuscript from Nauru appears elsewhere in this issue.

(19) Topical Working Bibliographies

Compilation of Bibliographies: Good progress has been made with the bibliographies in hand at the moment. These include:—

A Bibliography of Administration in the South Pacific (prepared at the request of the Australian Commonwealth Office of Education);

A Bibliography of Trade Unionism, Social Welfare and Youth Movements in the South Pacific (prepared at the request of the Head of the Bureau of Cultural Affairs, Netherlands New Guinea); and

A Bibliography of Native Education in the South Pacific, compiled by the Hon. C. H. Wedgewood.

A first draft of the last bibliography has been completed and submitted to experts on the subject in the Pacific and elsewhere. Many helpful suggestions have been received as a result, and are being incorporated in the final version.

D. South Pacific Literature Bureau

Tour of Organizer: Mr. Roberts, Organizer for Island Literature, was in Netherlands New Guinea from 1st to 19th December, when he visited many centres, accompanied by Mr. P. Merkelijn of the Netherlands New Guinea Information Department Ways in which the Literature Bureau could be of service to that area were examined and are now being followed up.

New Quarterly: Distribution of the first issue of *Pacific Reading,* the quarterly journal of the Literature Bureau, was made during December, 1952. Nearly one thousand copies of this pilot edition, for which no charge is being made, have been distributed to Government officials, missionaries and others whose work is connected with the Pacific area. It is hoped that no-one who is likely to be interested in this periodical has been omitted from the distribution list; but if anyone has been missed out through accident or error a copy will gladly be sent on request. Regular subscriptions in future will be as follows:—

Single copy, stg. 2/-; Annual subscription, stg. 6/-; Annual subscription for ten or more subscriptions sent to the same address, stg. 5/-.

It is intended to mail quarterly issues in March, June, September and December.

Cheap Printing Methods: A good deal of investigation and experiment has been made into the question of cheap short-run printing processes. One result has been an illustrated booklet *Papuan Tales,* produced on the multilith machine, and with text typed on a justifying typewriter; further experiments include the production of vernacular text with coloured illustrations produced by Blue-Print methods from black and white originals; the reproduction in black and white of ordinary photographs; and the multiplication in colour of original drawings. Enquiries on these processes will be welcomed and should be addressed to the Literature Bureau.

Pacific Christian Literature Society: At its December meeting the Pacific Christian Literature Society considered favourably a suggestion made by the Organizer for Island Literature that the possibility of co-operation between the Society and the Literature Bureau in the translation and publication of certain small secular booklets of the "Village Library" type for the Pacific area would be worth examining; the matter is being pursued further. The Commission was represented at the meeting by Miss I. Leeson and Mrs. N. Phelan.

General Activities: Continued activities of the Bureau include the collection and preparation of material for future issues of *Pacific Reading;* the distribution, on request, of information concerning the provision of literature, printing methods, vernacular manuscripts and visual aids, and further investigation and experiments in reproduction processes.

A bibliography of approximately 50 titles of very simple books on

health and hygiene written for village people in the tropics was prepared for the Executive Officer for Health.

Correspondence was begun with Papua and New Guinea, Samoa, Fiji and the United States Trust Territory concerning the possible co-operation between the Bureau and the Governments concerned in the production of specific manuscripts.

Publication by the Fijian Affairs Board of an edition of 3,000 copies of *A Vakatatomi,* a booklet in Fijian, was guaranteed by the Bureau. Sales to the Fijian public in the first few months alone covered the full amount of the guarantee.

LIST OF SOCIAL DEVELOPMENT PROJECTS IN NUMERICAL ORDER

Project

*S.1 —Vocational Training**
S.2 —Visual Education
S.3 —Mass Literacy
*S.5 —Review of Research in Social Anthropology**
*S.6 —Linguistic Survey**
S.7 —Co-operative Societies .
S.8 —Building Investigation
S.9 —Moturiki Community Development
S.10—Archaeological and Historical Sites
S.11—South Pacific Literature Bureau
S.12—Welfare Centres
S.13—Vernacular Teaching
S.14—Visual Unit
S.15—Vernacular Bibliographies
S.16—Community Development
S.17—Nimboran Community Development
S.18—Population Studies
S.19—Studies of the Islander in Commerce and Industry
S.20—Central Vocational Training Institution
S.21—Experimentation in Literacy Techniques
S.22—Visual Aids
S.23—Association with Territorial Community Development Projects

* These projects have been completed. Each comprises a survey that is being published in book form for the Commission by Oxford University Press.

Acknowledgement

Except for the photograph of Commission Headquarters on page 9, and that of the Ducos Leprosarium on page 5, all photographs appearing in this issue are reproduced by courtesy of the Fiji Public Relations Office.

Research Council Members for 1953

AT the Tenth Session of the Commission, held last October, the following were appointed members of the Research Council for 1953:—

HEALTH

Dr. J. M. Cruikshank, C.M.G., O.B.E.: Inspector-General of the South Pacific Health Service and Director of Medical Services, Fiji.

Dr. J. R. Dean: Medical Director, American Samoa.

Medecin Colonel P. Filippi: Director of Health Services, New Caledonia, and Director of Army Health Services, French Establishments in the Pacific.

Dr. J. T. Gunther: Director, Department of Health, Territory of Papua and New Guinea.

Dr. T. C. Lonie: Director of Health, Western Samoa.

Dr. D. Metselaar: Head of the Government Malariological Service, Netherlands New Guinea.

ECONOMIC DEVELOPMENT

Dr. F. Bugnicourt: Director, French Institute of Oceania, Noumea, New Caledonia.

Mr. D. R. Eden: General Manager, New Zealand Reparation Estates, Western Samoa.

Mr. B. E. V. Parham, O.B.E.: Senior Agricultural Officer, Government of Fiji.

Dr. A. Perk: Head of the Department of Economic Affairs, Netherlands New Guinea.

Dean Knowles A. Ryerson: Dean, College of Agriculture, University of California, California.

Mr. J. E. Willoughby: Assistant Secretary, Industries and Commerce Division, Department of Territories, Canberra, Australia.

SOCIAL DEVELOPMENT

Mr. H. E. Maude, O.B.E.: Executive Officer for Social Development, South Pacific Commission.

Dr. Homer G. Barnett: Department of Anthropology, University of Oregon, U.S.A.

Dr. Ch. J. Grader: Head of the Office of Native Affairs, Netherlands New Guinea.

Mr. W. C. Groves: Director, Department of Education, Territory of Papua and New Guinea.

M. J. C. R. Guiart: Ethnologist, French Institute of Oceania, Noumea, New Caledonia.

Mr. Howard Hayden: Director of Education, Fiji.

Mr. H. H. Hickling: Director of Education, Cook Islands.

Tropical Agriculture Research in Queensland

Considerable research is being undertaken in Queensland on problems of tropical agriculture, notably at the South Johnstone Bureau of Tropical Agriculture, Ayr Regional Experimental Station, Maroochy Horticultural Experimental Station, and the various sugar experimental stations.

In order to study at first-hand the work going on there that would be of value to territories in the South Pacific, M. Jacques Barrau, technical officer of the Commission, recently spent some weeks visiting various agricultural institutions in Queensland. His report will shortly be distributed among territories.

New Series of Technical Papers

The Commission is issuing a series of Technical Papers mainly comprising reports on projects being carried out in the fields of economic development, health, and social development. A list of titles issued to date appears on the outside back cover of this issue.

Copies of Technical Papers are available from Commission headquarters, Noumea, New Caledonia, or from G.P.O. Box 5254, Sydney, Australia, price 2/- stg. per copy, post free by surface mail.

SOCIAL DEVELOPMENT SECTION

Quarterly Reading List — No. 6

The Quarterly Reading List, which is a regular feature of the Bulletin, covers books and articles relating to the social development field in the South Pacific which have come to the notice of the staff of the Section during the quarter.

While it is not claimed that the list is exhaustive, every effort has been made to ensure that no significant items appearing during the quarter have been missed.

Copies of any of the items listed can be obtained on loan, on application to the Executive Officer for Social Development, Box 5254, G.P.O., Sydney, New South Wales, by any metropolitan or territorial Government which may experience difficulty in obtaining them through the usual channels. Suggestions for the inclusion of items or the improvement of the service will be welcomed.

GENERAL

Anthropology

(1) Keesing, F. M.: Anthropology and the South Pacific: A summary of recent research activities. *Clearinghouse Bulletin of Research in Human Organization* 1 : 4 Spring, '52, p. 1-5.

Biography

(2) Worsley, P. M.: N. N. Mikloukho-Maclay, Pioneer of Pacific Anthropology. *Oceania* 22 : 4 June, '52, p. 307-314.

Government and Administration

(3) Davidson, J. W.: The Changing Political Role of Pacific Islands' Peoples. *South Pacific* 6 : 4 July, '52, p. 380-385.
Abbreviated form of a paper delivered at the Australian National University Seminar at Canberra, August, 1951, on Social Processes in the Pacific.

(4) Davidson, J. W.: The Price of Political Dependency. *Australian Outlook* 6 : 2 June, '52, p. 117-128.
Discusses the position of dependent Pacific territories, the problems involved in the relationship between them and their metropolitan countries, with suggestions for minimising these problems.

SOUTH PACIFIC COMMISSION

(5) South Pacific Commission. *Commonwealth Survey* No. 107 : 10th October, '52, p. 11-12.
Data from the Commission's Annual Report for 1951.

(6) South Pacific Commission. *International Organization* 6 : 3 Aug., '52, p. 481-2.
The Ninth Session of the Commission and the Fisheries Conference.

MELANESIA

Cargo Cults and other Nativistic Movements

(7) Guiart, J.: Melanesian Nationalism. *Colonial Review* 7 : 7 Sept., '52, p. 204-205.
Abridged extracts of an article appearing in *Oceania*, December, 1951.

(8) Van der Kroef, J. M.: The Messiah in Indonesia and Melanesia. *Scientific Monthly* 75 : 3 Sept., '52, p. 161-165.

BRITISH SOLOMON ISLANDS

Anthropology

(9) Bartle, J. F.: The Shell Money of Auki Island. *Corona* 4 : 10 Oct., '52, p. 379-383.

Government and Administration

(10) The Constitutional and Administrative Position in the British Western Pacific Territories. *Current Notes on International Affairs* 23 : 9 Sept., '52, p. 481-493.
Sketches the changes which have occurred in the territories in recent years; appendices give historical, economic and demographic background data.

FRENCH OCEANIA

Anthropology

(11) Lescure, R.: De vieux gestes (1). *Bulletin de la Société des Etudes Océaniennes* 8 : 98 and 99 March-June, '52, p. 352-355.

Archaeology

(12) Monuments et sites pittoresques des E.F.O. *Bulletin de la Société des Etudes Océaniennes* 8 : 98 and 99 March-June, '52, p. 362-370.
A list of existing sites in the territory (previously published in the Official Gazette of French Oceania), together with the main clauses of the Territories Ordinance of 1950, concerning the discovery and conservation of sites.

Folklore

(13) Massainoff, A.: Une légende de Mangareva: Maviku. *Bulletin de la Société des Etudes Océaniennes* 8 : 98 and 99 March-June, '52, p. 356-361.

History

(14) Deux vieux papiers (1). *Bulletin de la Société des Etudes Océaniennes* 8 : 98 and 99 March-June, '52, p. 349-351.
Extracts from the *Illustrated London News* of 1843, relating to French activity in French Oceania.

GILBERT AND ELLICE ISLANDS

Government and Administration

(15) The Constitutional and Administrative Position in the British Western Pacific Territories. *Current Notes on International Affairs* 23 : 9 Sept., '52, p. 481-493.
Sketches the changes which have occurred in the territories in recent years; appendices give historical, economic and demographic background data.

History

(16) Maude, H. E.: The Colonization of the Phoenix Islands. *Journal of the Polynesian Society* 61 : 1 and 2 March and June, '52, p. 62-89, illus., map.

GUAM

Anthropology

(17) Gavan, J. A.: "Growth of Guamanian Children." Some methodological questions. *American Journal of Physical Anthropology* 10 : 1 March, '52, p. 132-137, table.

Housing

(18) United States. Housing and Home Finance Agency—Office of the Administration. The housing situation in Guam. January, 1952. 34 p. *Mimeographed.*

NETHERLANDS NEW GUINEA

Anthropology

(19) Feuilletau de Bruyn, W. K. H.: Ethnografisch verslag over de "Tori Aikwakai" van de meervlakte. *Tijdschrift "Nieuw-Guinea"* 13 : 3 Sept., '52, p. 81-89.

(20) Kooijman, S.: The Function and Significance of Some Ceremonial Clubs of the Marind Anim, Dutch New Guinea. *Man* 52 : 139-157, July, '52, p. 97-99, illus.

Bibliography

(21) Bibliografie van Nieuw-Guinea. *Tijdschrift "Nieuw-Guinea"* 13 : 3 Sept., '52, p. 119-120.

Development and Welfare

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(54) Mason, L.: Anthropology—Geography Study of Arno Atoll. Marshall Islands. *Atoll Research Bulletin* No. 10, Sept. 1st, '52, 21 p., map. *Mimeographed.*

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(56) Spoehr, A.: The Tinian Chamorros. *Human Organization* 10 : 4 Winter, '51, p. 16-20.

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Co-operation in the South Pacific

A Survey of Available Literature

INTEREST in the co-operative movement continues to grow in the South Pacific, and during recent months requests for information relating to the organization and development of co-operatives have been received from no fewer than fifteen out of the nineteen territories in the area.

Many of these requests are for advice on literature dealing with the movement as a whole, or some aspect of it such as the development of co-operation in the Pacific or elsewhere, co-operative legislation or the constitution of societies.

In the following list an attempt is made to provide a selective guide for Government officers, missionaries and others anxious to obtain the most authoritative and up-to-date information on this subject.

In including or excluding items the criterion has been their practical value to persons working in tropical dependent areas such as the South Pacific. Many standard books on co-operation in Europe and America have therefore been omitted, together with a number of simple explanatory booklets designed for the officials and members of local societies, which will form the subject of a special article in a forthcoming number of "Pacific Reading."

(i): An Introduction to World Co-operation.

Digby, M.: *Co-operation: What It Means and How It Works.* London, Longmans, Green and Co., 1947. 2/6 stg.

For those looking for an introduction to the subject, here is a short, easily-read, post-war review of the co-operative movement in all parts of the world; written primarily for the busy official or social worker in the tropics.

(ii): Co-operation in Dependent Areas.

Campbell, W. K. H.: *Practical Co-operation in Asia and Africa.* Cambridge, W. Heffer and Sons, Ltd., 1951. 21/- stg.

The best and most up-to-date work on co-operation in dependent territories. The author has had a lifetime of co-operative experience in Africa, India, Ceylon, China and the Middle East and has written to help those faced with the problems of laying the foundations of co-operation in areas at a similar stage of development to the South Pacific.

(iii): Co-operative Legislation.

Surridge, B. J., and Digby, M.: *A Manual of Co-operative Law and Practice.* Cambridge, W. Heffer and Sons, Ltd., 1948. 12/6 stg.

Campbell's work and this companion volume contain all essential information to enable a District Officer or missionary to organize and guide co-operative societies of a simple type. The author is Adviser on Co-operation to the British Secretary of State for the Colonies and the second part of the book is devoted to a discussion of the "Model Ordinance and Rules" in force in most Colonial territories. In the Pacific area this legislation has been adapted for use in three territories and is being considered by several others.

(iv): Co-operation and Community Development.

Colombain, M.: *Co-operatives and Fundamental Education.* Paris, Unesco, 1950. (Monographs on Fundamental Education, II.) 3/6 stg.

An admirable survey of the important role of co-operative organizations in community development work.

(v): A Basic Reference Work.

Calvert, H.: *Law and Principles of Co-operation.* 4th ed., Calcutta, Thacker Spink and Co., 1933.

A co-operative classic, which is still the standard reference work on co-operation in less developed countries. It is unfortunately now out of print and extremely difficult to obtain, but is in many reference libraries.

(vi): An Annual Survey of Progress.

Horace Plunkett Foundation: *Yearbook of Agricultural Co-operation.* Oxford, Basil Blackwell. Annually. 21/- stg.

Reviews current developments in agricultural co-operation (including producers' and marketing societies) throughout the world.

(vii): Co-operative Practice.

The following works provide detailed practical information on the organization and management of co-operative societies in Africa, the Near East and India respectively:—

Wilson, J. L. Boyd: *A Co-operative Digest.* 2nd ed. Lusaka, Government Printer, 1952. About 5/- stg.

Intended for the guidance of people who, in the course of their work, are asked for advice by prospective African co-operators.

Paris, O.: *A Study of the Working of Co-operative Societies.* Valetta, Malta, printed at "The Allied Malta Newspapers Ltd.," 341 St. Paul Street. About 2/6 stg.

A survey of co-operative practice in Cyprus, Palestine and Egypt.

Madras Co-operative Manual, Vol. 1: Revised by J. C. Ryan. Madras, Government Press, 1951. Rs. 4.

Volume I contains all the information likely to be required, Volume II consisting of departmental instructions and Volume III model by-laws and forms.

(viii): Co-operation in the South Pacific.

South Pacific Commission: *A Bibliography of Documentary Material on Co-operation in the South Pacific.* Sydney, S.P.C., 1951. (Technical Paper No. 10.) 2/- stg.

A complete reference list to literature on the co-operative movement in the South Pacific area.

A large stock of works on co-operation is available for reference at the Office of the Executive Officer for Social Development, G.P.O. Box 5254, Sydney, N.S.W., Australia, who is ready to advise on literature relating to any particular aspect of the movement. Copies of items not easily obtainable through commercial channels can often be provided at cost price on request.

Deposit Notice No. 9

THE following manuscript has been made available for deposit and reproduction by kind permission of Dr. A. Capell, Reader in Oceanic Languages in the University of Sydney:—

Nauru — Department of Education. Selection of fables and stories (in Nauruan vernacular, as translated by teachers, and checked by T. Detudamo and J. Aroi) for use in Native primary schools. Book I. May, 1938. 22 p. Processed.

Microfilm positives of the above document may be obtained by Government Departments, libraries or scientific institutions at a cost of 3/- (Australian currency) on application to the Executive Officer for Social Development, Box 5254, G.P.O., Sydney, N.S.W., Australia.

Corrigendum

The map depicting the territorial scope of the South Pacific Commission, No. 12230 3-52, following p. 50 of the April, 1952, edition of the "SPC Quarterly Bulletin," should be corrected so as to include Christmas Island, located approximately latitude 2° N. and longitude 157° W., within the scope of the Commission.

Copra Survey by Commission Officer

Vigorous measures to restore and expand the copra industry are being taken in the territories of Fiji, Western Samoa, American Samoa and the Lower Cook Islands, according to Mr. W. V. D. Pieris, copra specialist to the Commission, who returned to headquarters early last October after completing a two-month tour of the territories named as part of a complete survey he is making of the coconut industry in the Pacific.

In the South Pacific, the populations of most territories are increasing, but production of coconuts, the main source of food and income, is decreasing, because most of the plantations are well over sixty years old. Their palms are approaching senility, making decreased output inevitable, while other contributing factors are the presence of dangerous pests in certain areas and the general uncertainty in the minds of growers with regard to the future of the industry.

Mr. Pieris stated that the gravity of the problem was fully understood by administrative and agricultural officers of the four territories he visited. In Fiji and Western Samoa rehabilitation campaigns had already been started, while similar campaigns were to be inaugurated in American Samoa and the Cook Islands. The improvement of the quality of copra was also receiving attention.

Mr. Pieris expressed appreciation of the facilities afforded him by administrations and private concerns to study their problems at first hand. He was able to investigate all aspects of coconut cultivation and copra manufacture, as well as methods of copra grading, storage and marketing.

At the request of administrations and interested private organizations, Mr. Pieris attended a number of conferences in the territories he visited. These were convened to discuss the development of the coconut industry, involving not only the stepping up of production from existing plantations by the adoption of improved management practices, but also the extension of coconut cultivation where suitable land was available.

Mr. Pieris was impressed by the warm reception given to him by the island peoples he met, and by their keen interest in his mission.

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THE documents listed below are published by the South Pacific Commission, and are available at the price of stg. 2/- per copy post free by surface mail. If required by airmail, extra postage will be charged.

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Proceedings of Sessions of the South Pacific Commission (First to Tenth).

Annual Report of the South Pacific Commission (1948 to 1951 inclusive).

South Pacific Commission Work Programme: Summary of Projects Approved in 1949. (Issued as Supplement to Annual Report for 1949.)

Reports of Meetings of the Research Council (Third and Fourth).

(Reports of First and Second Meetings of the Research Council appear in the Proceedings of the Third and Sixth Sessions respectively.)

Report of First South Pacific Conference.

Progress Report on Action Taken on the Resolutions of the First South Pacific Conference.

Quarterly Bulletin, ...	Vol. 1, No. 1.	January, 1951.
" "	Vol. 1, No. 2.	April, 1951.
" "	Vol. 1, No. 3.	July, 1951.
" "	Vol. 1, No. 4.	October, 1951.
" "	Vol. 2, No. 1.	January, 1952.
" "	Vol. 2, No. 2.	April, 1952.
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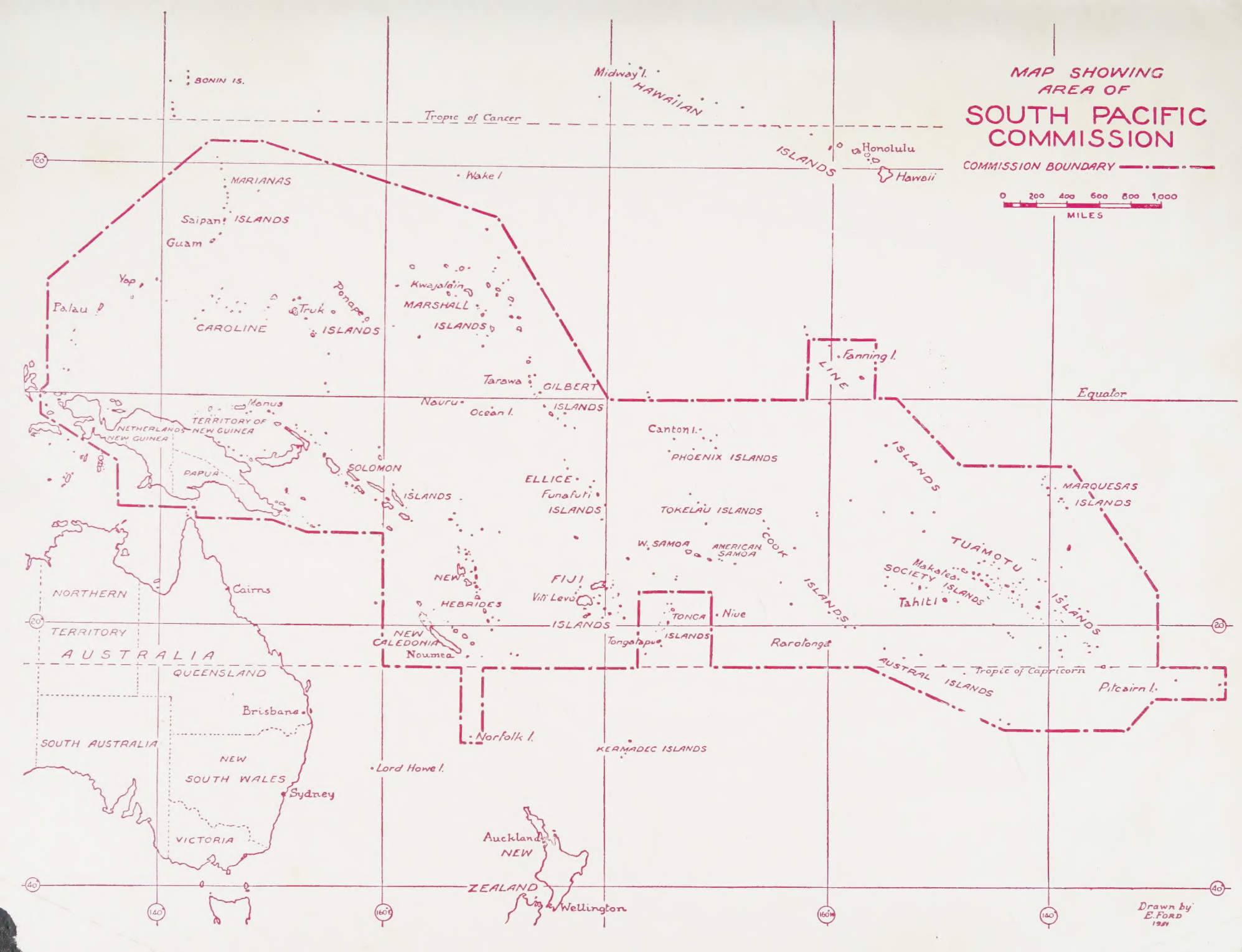
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BONIN IS.
Midway I.
HAWAIIAN ISLANDS
Honolulu
Hawaii
Tropic of Cancer
Wake I
MARIANAS
Saipan
ISLANDS
Guam
Yap
Palau
CAROLINE ISLANDS
Truk
Ponape
Kwajalein
MARSHALL ISLANDS
Fanning I.
LINE ISLANDS
Equator
Tarawa
GILBERT ISLANDS
Nauru
Ocean I.
Manus
TERRITORY OF NEW GUINEA
NETHERLANDS NEW GUINEA
PAPUA
SOLOMON ISLANDS
Canton I.
PHOENIX ISLANDS
ELLICE
Funafuti
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1. **The Co-operative Movement in the Gilbert and Ellice Islands.** By H. E. Maude. February, 1949. 31 pp.
2. **Community Development.** March, 1950. 27 pp., bibliography.
3. **The Village Library.** April, 1950. 9 pp., book list.
4. **Visual Aids in Education in the South Pacific.** By A. L. Moore, Visual Aids Consultant, Commonwealth Office of Education. April, 1950. 58 pp.
5. **Fisheries and Animal Health Research Projects of Significance for the South Pacific Region,** conducted under the authority of the Commonwealth Scientific and Industrial Research Organization, Australia. May, 1950. 9 pp.
6. **A Preliminary List of Economic Plants of New Caledonia.** By J. Barrau, Director of Agriculture, New Caledonia. July, 1950. 10 pp.
7. **A Preliminary List of Plants Introduced into Tahiti.** July, 1950. 21 pp.
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9. **Report of Plant and Animal Quarantine Conference, Suva.** April, 1951. 24 pp., two annexures.
10. **Bibliography of Co-operation in the South Pacific.** April, 1951. 10 pp.
11. **Interim Reports on the Moturiki (Fiji) Community Development Project.** By Howard Hayden, Director of Education, Fiji. May, 1951. 48 pp.
12. **Tuberculosis Investigations by the South Pacific Commission in 1950.** May, 1951. 124 pp.
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15. **Libraries for Beginners.** By Dr. & Mrs. Kenneth Todd, Kwato Mission, Eastern Papua. July, 1951. 21 pp.
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17. **Conference of Experts on Filariasis and Elephantiasis, Tahiti: Summary of Proceedings.** September, 1951. 22 pp.
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21. **Note on the Mycoflora of Rice Seed in the Territories of the South Pacific.** By Dr. F. Bugnicourt, Director, Institut Francais d'Oceanie. January, 1952. 5 pp., appendices, bibliography.
22. **The Chemical Composition of the Milk of New Hebridean Mothers.** By F. E. Peters, biochemist, South Pacific Commission. February, 1952. 7 pp.
23. **Nutrition Research Conducted in New Hebrides during 1951.** By Sheila Malcolm, nutritionist, South Pacific Commission. April, 1952. 51 pp., tables, graphs.
24. **A Survey of Leprosy on the Island of Nauru.** By Dr. C. J. Austin, Director, Makogai Leprosy Hospital, Fiji. April, 1952. 8 pp., table, graph, map.
25. **Report of Fisheries Conference, Noumea.** May, 1952. 46 pp., appendices.
26. **Further Education in the Cook Islands.** By P. F. Henderson, Officer for Further Education, Cook Islands. July, 1952. 13 pp.
27. **A Survey of Leprosy in the British Solomon Islands Protectorate.** By Dr. C. J. Austin, Director, Makogai Leprosy Hospital, Fiji. July, 1952. 12 pp., map.
28. **Coral as a Building Material.** July, 1952. 10 pp., bibliography.
29. **Current Research in the South Pacific in the Field of Economic Development.** July, 1952. 82 pp., map.
30. **Bibliography of Cargo Cults and other Nativistic Movements in the South Pacific.** By Ida Leeson, former Mitchell Librarian. July, 1952. 16 pp., map.
31. **Cocoa Plantation Management in Western Samoa.** By D. R. A. Eden, General Manager, New Zealand Reparation Estates, and W. L. Edwards, Assistant General Manager. October, 1952. 20 pp., diagrams.
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